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LIFE CYCLE COST GUIDE FOR MAJOR WEAPON SYSTEMS.(U)
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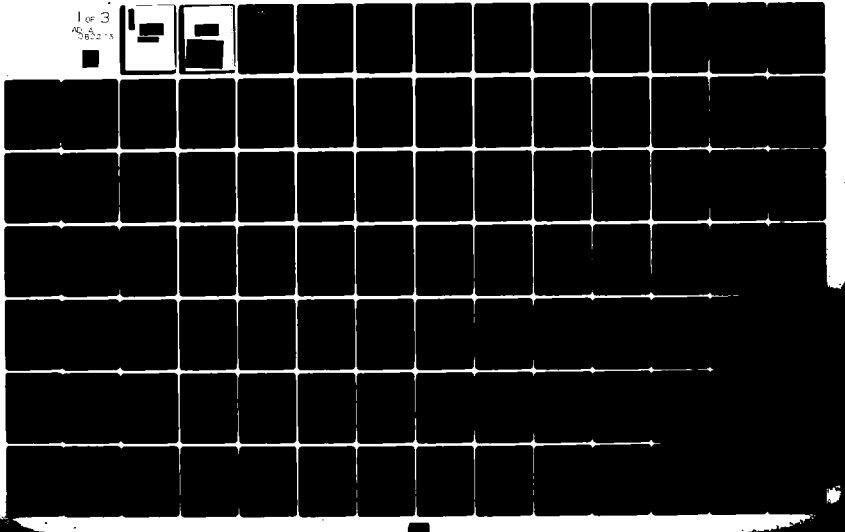

LEVEL II

(2)

LIFE CYCLE COST GUIDE FOR MAJOR WEAPON SYSTEMS.

PREPARED FOR

NAVAL MATERIAL COMMAND

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BY

THE NAVAL WEAPONS ENGINEERING SUPPORT ACTIVITY

ENGINEERING MANAGEMENT DEPARTMENT

COST MANAGEMENT DIVISION

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Management Summary

The Life Cycle Cost Guide for Major Weapon Systems is a standardized and automated Life Cycle Cost methodology used in the Life Cycle Cost Analysis of major weapon systems procured for the Navy.

The total Life Cycle Cost is divided into five major cost elements: Research & Development, Investment, Operating & Support, Associated Systems, and Termination Costs. These cost elements are divided into 98 sub cost elements, 77 of which comprise the basic equations. The basic equations are further defined by 109 cost factors.

Each equation is identified as belonging to a cost category i.e., Contracted Research, Management, Testing, Prime Equipment, Training, Supply Support, Technical Data, Support Equipment, Operation, or Maintenance, and a funding type i.e.; Research & Development, Procurement, Construction, Operation & Maintenance, Military Personnel, or Other. The costs can be adjusted to reflect the time value of money.

The program provides 13 reports at different depths of detail and with various types of information. These reports are grouped into two basic categories:

A. Input Data Reports present the input data and the information built in the program in five formats to provide the basic information about the cost model, the cost factor description, values, and general remarks about the project.

These reports are:

1. Equations
2. Remarks
3. Dictionary
4. Variable Values
5. Cost Adjustment Factors

B. Output Reports present the calculated values of the Life Cycle Cost in eight formats. These reports are:

1. Summary
2. Funding by Cost Category
3. Cost Breakdown by Year
4. Cost Breakdown Totals
5. General Funding
6. Annual cost by Funding Type
7. Annual Cost by Cost Category
8. Sensitivity Analysis

The computer program developed for the Life Cycle Cost Major Weapon System Model is designed to provide the analyst the flexibility to modify the standard Life Cycle Cost model to his specific project needs. The procedures are user-oriented and do not require any computer program changes. Using this technique, the analyst can redefine the entire cost structure. This special programming technique provides the user a program readily available to be adopted to various types of cost models.

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I. Introduction

A. Purpose

This document provides guidance for preparing life cycle cost estimates of major weapon systems. It provides a framework for objective comparison of research and development, investment, and operating and support costs of program, design or support alternatives, using consistent methodologies and terminology. A suggested cost breakdown structure (CBS) is presented, a general methodology for life cycle cost-estimating is described, and a description of the FLEX computer program used to facilitate the computations is provided.

The guidance presented herein is intended to aid in achieving a consistent framework for estimating life cycle costs of major weapon systems. The material contained in this document should be considered a guide - an update of the Naval Material Command Life Cycle Cost Guide for Major Weapons Systems orignially published 1 January 1977 - not a rigid specification for Life Cycle Cost analysis.

B. Applicability

The guidance provided in this report applies to both aircraft and ship systems. The CBS is generally applicable to any cost analysis performed on these weapon systems during the acquisition process, including cost effectiveness and trade-off studies.

The guidance presented herein is directed toward estimating costs that are variable with respect to acquisition program decisions; hence, the estimates are not the same as total program or budget costs, and contain only part of the information necesssary for budget impact analysis. An analyst may deem it

necessary to alter the CBS and methodology presented as warranted by the purpose or time frame of the cost analysis.

C. Overview

Section II recommends a CBS to be used in the life cycle cost analysis of major weapon systems. Designed to have multi-system types applicability, the CBS attempts to capture all relevant costs associated with the development, acquisition, ownership, and disposal of the weapon system. Section III presents the general methodology for performing a major weapon system life cycle cost analysis, describing each of the cost elements, and expressing these cost elements with mathematical formulas. Section IV reinforces the fact that the CBS and cost estimating technique should be flexible, adjusting to the purposes and needs for the cost analysis. Illustrated are examples of analyses requiring that the CBS and costing methodology be tailored for specific issues.

Section V discusses the FLEX computer model. Data requirements, model operation, and output results are described.

II. Cost Breakdown Structure

A. Introduction

A cost breakdown structure (CBS) is an ordered listing of the relevant cost elements attributable to a major weapon system during its life cycle. The purpose for the CBS is twofold: 1) promote consistency in the computation and display of costs, and 2) provide a check list to assure that all pertinent costs are included and without duplication in the analysis.

The CBS for major weapon systems is shown in Table 1. Definitions are given in Section III. The total life cycle cost is divided into five major cost elements; Research and Development, Investment, Operating and Support, Associated Systems, and Termination costs. These cost elements are then divided into 99 sub-cost elements, 77 of which comprise the basic equations which quantify the major cost elements

B. Significant Cost Elements

Not all cost elements require or deserve the same attention when developing cost estimates for a new weapon system. The greatest analytic effort should be devoted to those accounting for a substantial part of the total life cycle cost, which can be affected by acquisition program decisions or assist in distinquishing between alternatives. In Research & Development category, the elements normally deserving the greatest attention are:

1.212 (Engineering), 1.214 (Software), 1.216 (Documentation), and 1.223 (System Test and Evaluation). In the Investment category, the significant cost elements are normally : 2.11 (Production Hardware), 2.12 (Peculiar Support Equipment), 2.19 (Initial Spares and Repair Parts), 2.21 (GFE/GFM), 2.271 (Operational Sites), and 2.272 (Maintenance Facilities). In the Operat-

Table I
Cost Breakdown Structure
for
Major Weapon Systems

1.	RESEARCH AND DEVELOPMENT
1.1	VALIDATION
1.11	CONTRACTOR
1.12	GOVERNMENT
1.2	FULL SCALE DEVELOPMENT
1.21	CONTRACTOR
1.211	PROGRAM MANAGEMENT
1.212	ENGINEERING
1.213	PROTOTYPE HARDWARE
1.214	SOFTWARE
1.215	INTEGRATION AND TEST
1.216	DOCUMENTATION
1.22	GOVERNMENT
1.221	PROJECT MANAGEMENT
1.222	SYSTEMS ENGINEERING
1.223	SYSTEM TEST AND EVALUATION
1.2231	TEST PERSONNEL AND TRAINING
1.2232	TEST SPARES
1.2233	TEST AGE/GSE/TE
1.2234	TEST FACILITIES
1.224	FOREIGN MILITARY SALES
2.	INVESTMENT
2.1	ACQUISITION (CONTRACTOR)
2.11	PRODUCTION HARDWARE
2.12	PECULIAR SUPPORT EQUIPMENT
2.13	TRAINING
2.14	INTEGRATION AND TEST
2.15	PROGRAM MANAGEMENT
2.16	DOCUMENTATION
2.17	TECHNICAL SUPPORT
2.18	INDUSTRIAL FACILITIES
2.19	INITIAL SPARES AND REPAIR PARTS
2.2	GOVERNMENT
2.21	GFE/GFM
2.22	COMMON SUPPORT EQUIPMENT
2.23	TRAINING
2.24	SYSTEM TEST AND EVALUATION
2.25	PROJECT MANAGEMENT
2.26	DOCUMENTATION
2.27	SITE ACTIVATION
2.271	OPERATIONAL SITES
2.272	MAINTENANCE FACILITIES
2.28	SUPPLY INTRODUCTION
2.29	TRANSPORTATION
3.	OPERATING AND SUPPORT
3.1	OPERATING
3.11	CREW
3.12	STAFF
3.13	MATERIAL
3.14	SECURITY
3.15	OTHER DEPLOYED MANPOWER
3.16	PERSONNEL SUPPORT
3.2	ORGANIZATIONAL/INTERMEDIATE MAINTENANCE ACTIVITY
3.21	AFLOAT FACILITIES
3.211	LABOR
3.2111	WEAPON SYSTEM MAINTENANCE
3.2112	ORDNANCE MAINTENANCE
3.212	MATERIAL
3.213	PERSONNEL SUPPORT
3.214	SITE MAINTENANCE
3.22	ASHORE FACILITIES
3.221	LABOR
3.2211	WEAPON SYSTEM MAINTENANCE
3.2212	ORDNANCE MAINTENANCE
3.222	MATERIAL
3.223	PERSONNEL SUPPORT
3.224	SITE MAINTENANCE
3.3	INSTALLATION SUPPORT
3.31	BASE OPERATING SUPPORT
3.32	REAL PROPERTY MAINTENANCE
3.33	PERSONNEL SUPPORT
3.4	DEPOT MAINTENANCE
3.41	SCHEDULED MAINTENANCE
3.42	UNSCHEDULED MAINTENANCE
3.43	MODERNIZATION
3.44	COMPONENT REPAIR
3.5	DEPOT SUPPLY
3.51	MATERIAL MANAGEMENT
3.52	TECHNICAL SUPPORT
3.6	SECOND DESTINATION TRANSPORTATION
3.61	SCHEDULED
3.62	UNSCHEDULED
3.7	PERSONNEL SUPPORT AND TRAINING
3.71	INDIVIDUAL TRAINING
3.72	HEALTH CARE
3.73	PERSONNEL ACTIVITIES
3.74	PERSONNEL SUPPORT
3.8	SUSTAINING INVESTMENTS
3.81	REPLENISHMENT SPARES
3.82	MODIFICATIONS
3.83	REPLENISHMENT SUPPORT EQUIPMENT
3.84	EXPENDABLE STORES
4.	ASSOCIATED SYSTEMS
4.1	INVESTMENT
4.11	MOBILE LOGISTICS SUPPORT FORCE
4.12	TENDERS AND REPAIR SHIPS
4.13	ASHORE IMA
4.2	OPERATING AND SUPPORT
4.21	MOBILE LOGISTICS SUPPORT FORCE
4.22	TENDERS AND REPAIR SHIPS
4.23	ASHORE IMA
4.24	EMBARKED SYSTEMS
5.	TERMINATION

ing & Support category, the predominate cost elements are normally: 3.11 (Crew), 3.13 (Material), 3.2 (IMA), 3.4 (Depot Maintenance), and 3.8 (Sustaining Investments). In the Associated Systems category, the significant cost element is 4.1 (Investment).

Other cost elements not pertinent to distinguishing between alternatives can usually be addressed in a straight forward manner with planning factors. For example, cost element 2.25 (Project Management) is included in the structure to provide an appreciation of the full variable investment costs of acquiring the major weapon system. However, the magnitude of this cost element is usually more a function of the Navy Department's organizational structure than a function of the major weapon system characteristics. For the non-significant cost elements, planning factors should be used, unless alternatives need to be compared in greater detail.

C. Cost Estimate Levels

The cost elements delineated in the CBS introduce a choice whether the cost estimate should be for a single weapon system, a deployable unit, or the total fleet. In most cases, the choice will be the total fleet. Decisions on affordability or budget impact require visibility of total fleet costs, time-phased over the expected life of the weapon system. The cost methodology presented in Section III reflects estimates made at the total fleet level.

Another choice introduced by the CBS is at what hardware indenture level cost estimates should be made. The costs attributable to a weapon system may be incurred by the total weapon system, subsystems, or components. To provide guidance in this area, the weapon system is divided into five generic subsystems: Structure, Electronics, Propulsion, Armament, and Other.

Table 2 provides guidance for selecting the appropriate hardware indenture level costs are normally incurred at. The subsystem level represents cost estimates made at the subsystem level or cost estimates made at the component level and aggregated into the subsystem level. The actual selection of the appropriate levels should be based on the status of system design and purposes for the cost analysis.

Table 3 is an aid for correlating the Level 3 items for both the air vehicle and ship delineated in Military Standard Work Breakdown Structures for Defense Material Items 881A dated 25 April 1975 to the five generic subsystems suggested in this report.

D. Omitted Costs

The CBS identifies all variable costs associated with the proposed weapon system relevant to the decision process. Consequently, some costs are excluded.

1. Base-Fixed Costs

This category includes costs of personnel and material primarily dependent on the existence of the base. These costs typically include:

- Maintenance and protection of base facilities, such as buildings, road construction and repair, police and fire protection, trash and sewage disposal and utility services
- Maintenance of base living conditions (commissaries, exchanges, religious activities, and sports and entertainment facilities)
- Supervision of the above activities

2. Central Support Overhead

The cost of headquarters organizations that provide administrative guidance and oversee the operation of maintenance depots, supply depots, and

TABLE 2

HARDWARE LEVELS
VS
COST ELEMENTS

ELEMENT NO.	TOTAL SYSTEM	STRUCTURE	ELECTRONICS	PROPULSION	ARMAMENT	OTHER
1.11	*					
1.12	*					
1.211		*	*	*	*	*
1.212		*	*	*	*	*
1.213		*	*	*	*	*
1.214		*	*	*	*	*
1.215		*	*	*	*	*
1.216		*	*	*	*	*
1.221		*	*	*	*	*
1.222		*	*	*	*	*
1.2231		*	*	*	*	*
1.2232		*	*	*	*	*
1.2233		*	*	*	*	*
1.2234		*	*	*	*	*
1.224	*					
2.11	*					
2.12		*	*	*	*	*
2.13		*	*	*	*	*
2.14		*	*	*	*	*
2.15		*	*	*	*	*
2.16		*	*	*	*	*
2.17		*	*	*	*	*
2.18		*	*	*	*	*
2.19		*	*	*	*	*
2.21		*	*	*	*	*
2.22		*	*	*	*	*
2.23		*	*	*	*	*
2.24		*	*	*	*	*
2.25		*	*	*	*	*
2.26		*	*	*	*	*
2.271	*					
2.272		*	*	*	*	*
2.28		*	*	*	*	*
2.29		*	*	*	*	*
3.11	*					
3.12	*					
3.13		*	*	*	*	*
3.14	*					
3.15	*					
3.16	*					
3.2111		*	*	*		*
3.2112					*	
3.212		*	*	*	*	*
3.213	*					
3.214		*	*	*	*	*
3.2211		*	*	*		*
3.2212					*	
3.222		*	*	*	*	*
3.223	*					
3.224		*	*	*	*	*
3.31	*					
3.32		*	*	*	*	*
3.33	*					
3.41		*	*	*	*	*
3.42		*	*	*	*	*
3.43		*	*	*	*	*
3.44		*	*	*	*	*
3.51		*	*	*	*	*
3.52		*	*	*	*	*
3.61		*	*	*	*	*
3.62		*	*	*	*	*
3.71		*	*	*	*	*
3.72	*					
3.73	*					
3.74	*					
3.81		*	*	*	*	*
3.82		*	*	*	*	*
3.83		*	*	*	*	*
3.84					*	
4.11	*					
4.12	*					
4.13	*					
4.21	*					
4.22	*					
4.23	*					
4.24	*					
5.	*					

TABLE 3

LEVEL 3 ITEMS VS GENERIC SUBSYSTEMS

		Structure	Electronics	Propulsion	Armament	Other
Aircraft System	Airframe	*				
	Propulsion unit			*		
	Other propulsion			*		
	Communications		*			
	Navigation/quidance		*			
	Fire control		*			
	Penetration aids		*			
	Reconnaissance equipment		*			
	Automatic flight control		*			
	Central integrated checkout		*			
	Antisubmarine warfare		*			
	Auxiliary electronics equipment		*			
	Armament				*	
	Weapons delivery equipment				*	
	Auxiliary armament/weapons delivery equipment				*	
Ship System	Hull structure	*				
	Propulsion plant			*		
	Electric plant		*			
	Communications and control		*			
	Auxiliary systems					*
	Outfit and furnishings					*
	Armament				*	
	Integration/engineering					
	Ship assembly					

training activities. These headquarters include, for example the Naval Material Command and subordinate Systems Commands.

3. Command Structure Overhead

The costs of operational headquarters/commands and staffs above the Air Wing or ship level. Collectively, headquarters directly supervise the operation of the Air Wings or ships and provide overall policy formulation and administration.

4. Selected Non-Service Appropriated Funds

The cost of programs, such as family housing, not directly identifiable with a specific Navy appropriation.

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III. Cost Methodology

A. Introduction

Section III presents a general methodology for estimating the life cycle cost of a major weapon system. The costing methodology presented predominately uses deterministic cost estimating techniques. The purpose for using this technique is to provide visibility to the reader as to what costs are considered relevant to each cost element. In general, the context of the problem and cost analysis considerations determine the estimating technique. Context includes the phase of the acquisition program, the desisions to be made, and the accuracy and resolution required in the estimate. The cost analysis considerations are the resources available for the task: time, data, methodology and manpower.

B. Definitions And Formulas

Definitions and mathematical expressions for the cost elements contained in the CBS are provided on the following pages. Descriptions of the cost factors which comprise the equations are also provided.

Although not absolutely necessary, cost equations are shown for the cost elements having lower indentured cost elements below them; a cost element with cost elements below it is equal to the sum of the costs of the cost elements below it. For example, cost element 1.223 (System Test and Evaluation) is the sum of the following cost elements:
1.2231 (Test Personnel and Training), 1.2232 (Test Spares), 1.2233 (Test AGE/GSE/TE), and 1.2234 (Test Facilities). Another example is cost element 1.22 (Government) equal to the sum of 1.221 (Project Management), 1.222 (Systems Engineering), 1.223 (System Test and Evaluation), and 1.224 (Foreign Military Sales Benefit.

C. Time Value of Money

Each of the cost elements that do not have lower indentured cost elements are estimated by year in constant budget-year dollars of the fiscal year following the calendar year of the cost estimate. These costs are then adjusted by the time value of money theory.

To adjust for the time value of money, two basic categories of adjustment factors are used. The first category of adjustment factors coverts a future expenditure, from the base year (reference year from which costs occurring in other years are adjusted) dollar value, to the dollar value at the future year. The expression used to derive this factor is given by

$$(1+IR)^n$$

where,

IR is the average inflation rate

n is the number of years after the base year

The second cagetory of adjustment factors converts the dollar value at the future year into the present value of the base year. The present value dollars represent the amount of money the Government must put into a profit or interest generating account at the time of the base year in order to have the future dollars available for expenditure occuring at the end of "n" years. The expression used to derive this factor is given by

$$\left[\frac{1}{1 + DR}\right]^n$$

where

DR is the average discount rate.

The two categories of adjustment factors, as presented above, assume that the future expenditure occurs at the end of "n" years. In reality, however,

the cost is usually incurred throughout the year. Therefore, in accordance with SECNAVINST 7000.14B, an arithmetic mean (average) adjustment factor equation is developed. The annual adjustment factor is equal to

$$\frac{\left[\left[\frac{1 + IR}{1 + DR}\right]^{n-1} + \left[\frac{1 + IR}{1 + DR}\right]^{n}\right]}{2}$$

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1. Research and Development Costs

Definition:

Research and development costs refer to all costs associated with the research, development, test and evaluation of the system/equipment. Specifically, this covers all costs during the validation and full scale development phase of the program. This category includes costs for engineering design, development, fabrication, assembly and test of engineering prototype models; initial system evaluation; and associated documentation. The costs incurred in this category terminate with the satisfactory completion of the Initial Operational Test and Evaluation and Government's approval for Service use.

Cost Formula:

$$RD = VC + FSD$$

where:

RD = Research and development costs. ($)

VC = Validation costs. ($)

FSD = Full scale development costs. ($)

1.1 Validation Costs

Definition

This subcategory refers to all costs associated with the efforts categorized as "Validation." These efforts include validation of the selected technical approach and costs, performance predictions, schedules and military requirements being made.

Cost Formula:

$$VC = CV + GV$$

where:

VC = Validation costs. ($)

CV = Contractor validation cost. ($)

GV = Government validation cost. ($)

1.11 Contractor Validation Cost

Definition:

This element includes that portion of the validation cost incurred by private business while under contract with the Government.

Cost Formula:

$$CV = \sum_{I=1}^{Y} ADC(I)$$

where:

CV = Contractor validation cost. ($)

ADC(I) = Contractor payments paid by the Government to contractors for the major weapon system validation effort during year I. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

1.12 Government Validation Cost

Definition:

This element includes that portion of the validation cost incurred by the Government.

Cost Formula:

$$GV = \sum_{I=1}^{Y} ADG(I)$$

where:

GV = Government validation cost. ($)

ADG(I) = Government expenditures during year I for the major weapon system validation effort. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

1.2 Full Scale Development Costs

Definition:

This subcategory refers to all costs associated with the efforts categorized as "Engineering Development" within the Department of the Navy. Engineering developments are those development programs being engineered for Service use, but which have not yet been approved for procurement or operation.

Cost Formula:

$$FSD = CFS + GFS$$

where:

FSD = Full scale development costs. ($)

CFS = Contractor full scale development costs. ($)

GFS = Government full scale development costs. ($)

1.21 Contractor Full Scale Development Costs

Definition:

The costs included in this subcategory shall be limited to the contractual full scale development costs. These include:

1.2101 Program Management

1.2102 Engineering

1.2103 Prototype Hardware

1.2104 Software

1.2105 Integration and Test

1.2106 Documentation

In addition, the overhead cost of general and administrative expenses and contract fee shall be included.

Cost Formula:

$$CFS = CM + CE + PH + CS + CI + CD$$

where:

CFS = Contractor full scale development costs. ($)

CM = Contractor full scale development program management cost. ($)

CE = Contractor engineering cost. ($)

PH = Contractor prototype hardware cost. ($)

CS = Contractor software development cost. ($)

CI = Contractor integration and test cost. ($)

CD = Contractor full scale development documentation cost. ($)

1.211 Program Management Cost

Definition:

This element refers to the technical and administrative planning, organizing, directing, coordinating, controlling and approval actions designed to accomplish overall program objectives during the full scale development phase of the equipment life cycle. Examples of these activities are configuration management, cost/schedule management, data assurance and integrated logistics support management.

Cost Formula:

$$CM = \sum_{I=1}^{Y} DCPM(I)$$

where:

CM = Contractor full scale development program management cost. ($)

DCPM(I) = Contractor payments paid by the Government to contractors for program management during year I for the full scale development effort. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

1.212 Engineering Cost

Definition:

This element refers to all engineering efforts associated with the system/equipment design and development. Specifically, this includes the cost of systems engineering and integration, design engineering (electrical, mechanical, drafting, etc.), design support (reliability, maintainability, human factors engineering and safety, value engineering, microelectronics), and the redesign or formulation of engineering changes. It includes the cost of direct labor, materials, overhead and other direct costs which must be incurred during the engineering process.

Cost Formula:

$$CE = \sum_{I=1}^{Y} DCE(I)$$

where:

CE = Contractor engineering cost ($)

DCE(I) = Contractor payments paid by the Government to contractors for engineering during year I for the full scale development effort. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

1.213 Prototype Hardware Cost

Definition:

This element refers to the fabrication and assembly of full scale development prototype models in support of the engineering design activity. Specifically, this includes the cost of direct labor, materials and overhead associated with material procurement and handling in support of manufacturing, fabrication, assembly, system integration, and checkout.

Cost Formula:

$$PH = \sum_{I=1}^{Y} DCH(I)$$

where:

PH = Contractor prototype hardware cost. ($)

DCH(I) = Contractor payments paid by the Government to contractors for prototype hardware during year I for the full scale development effort. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

1.214 Software Cost

Definition:

This element refers to the effort associated with the development of computer software. Cost of computer time is also contained herein.

Cost Formula:

$$CS = \sum_{I=1}^{Y} DCS(I)$$

where:

CS = Contractor software development cost. ($)

DCS(I) = Contractor payments paid by the Government to contractors for development of software during year I for the full scale development effort. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

1.215 Integration and Test Cost

Definition:

This element includes the cost of integrating the subsystems into a complete weapon system. It also includes that portion of the test cost incurred by private business while under contract with the Government. Test cost refers to those costs which are incurred in support of the Government testing (TECH/OPEVAL), during the full scale development phase of the equipment life cycle.

Cost Formula:

$$CI = \sum_{I=1}^{Y} DCTE(I)$$

where:

CI = Contractor integration and test cost. ($)

DCTE(I) = Contractor payments paid by the Government to contractors for integrating and testing the weapon system during year I for the full scale development effort. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

1.216 Documentation Cost

Definition:

The documentation element refers to all deliverable data acquired during Full Scale Development. The cost includes the effort for acquiring, writing, assembling, reformatting, production, packaging and shipping the following:

a. Engineering Data - Engineering drawings, associated lists, specifications, and other documentation required by the Government. Additionally, all plans, procedures, reports and documentation pertaining to systems, subsystems, component engineering, and testing.

b. Support Data - Data items required by the Government to develop and acquire the Support System. This includes maintenance data, provisioning data and lists, support and test equipment data and lists, logistics support plans and progress reports, technical publications requirements data, training plan data and transportation and handling data, etc.

c. Management Data - Data items necessary for configuration management, cost, schedule, contractual data management, programs management, etc., required by Government.

Cost Formula

$$CD = \sum_{I=1}^{Y} DCD(I)$$

where:

CD = Contractor full scale development documentation cost. ($)

DCD(I) = Contractor payments paid by the Government to contractors for documentation during year I for the full scale development effort. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

1.22 Government Full Scale Development Costs

Definition:

The costs included in this subcategory include:

1.2201 Project Management

1.2202 Systems Engineering

1.2203 System Test and Evaluation

1.2204 Foreign Military Sales Benefit

Cost Formula:

GFS = PM + SE + STE + FMS

where:

GFS = Government full scale development costs. ($)

PM = Government full scale development project management cost. ($)

SE = Government systems engineering cost. ($)

STE = Government full scale development system test and evaluation costs. ($)

FMS = Foreign military sales benefit. ($)

1.221 Project Management Cost

Definition:

This element refers to the technical and administrative planning, organizing, directing, coordinating, controlling, and approval actions designed to accomplish overall program objectives during the full scale development phase of the equipment life cycle. Examples of these activities are configuration management, cost/schedule management, data assurance and integrated logistics support management.

Cost Formula:

$$PM = \sum_{I=1}^{Y} DGPM(I)$$

where:

PM = Government full scale development project management cost. ($)

DGPM(I) = Government expenditures during year I for project management for the full scale development effort. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

1.222 Systems Engineering Cost

Definition:

The systems engineering element refers to the technical and management efforts of directing and controlling a totally integrated engineering effort of a system program. This element encompasses the system engineering effort to define the system and the integrated planning and control of the technical program efforts of design engineering, logistics engineering, specialty engineering, production engineering, and integrated test planning. This element includes but is not limited to: the system engineering effort to transform an operational need or statement of deficiency into a description of system requirements and a perferred system configuration; the logistics engineering effort to define, optimize and integrate the logistics support considerations into the mainstream engineering effort to insure the development and production of a supportable and cost effective weapon system; and the technical planning and control effort for planning, monitoring, measuring, evaluating, directing and replanning the management of the technical program. It excludes the actual design engineering, and production engineering directly related to the products or services of a deliverable end item. Examples of system engineering efforts include:

a. System definition, overall system design, design integrity analysis, system optimization, system/cost effectiveness analysis, and intrasystem and intersystem compatibility assurance, etc., the integration and balancing of reliability, maintainability, producibility, safety, and survivability; human factors, personnel and training program requirements, security requirements, configuration identification and control, quality assurance program, value engineering, preparation of equipment and component performance specifications, design of test and demonstration plans;

b. Support synthesis, design impact projections, life cycle cost factors, time factors, tradeoff analysis, logistics design appraisal, use studies, support function requirements identification, repair level determination, task analysis, standardization review, logistics requirements identification, logistics support verification, and the preparation and updating of the logistics support plan, the maintenance plan, facilities planning (operational and maintenance), the transportation and handling plan, etc., and:

c. Preparation of the Systems Engineering Management Plan (SEMP), specification tree, program risk analysis, system test planning, decision control process, technical performance measurement, technical reviews, subcontractor/vendor reviews, work authorization, technical documentation control, etc.

Cost Formula:

$$SE = \sum_{I=1}^{Y} DCSE(I)$$

where:

SE = Government systems engineering cost. ($)

DCSE(I) = Government expenditures during year I for systems engineering for the full scale development effort. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

1.223 System Test and Evaluation Costs

Definition:

System test and evaluation costs refer to those costs which are incurred with the Navy for testing and evaluation (TECH/OPEVAL) of the prototype system during the full scale development phase. The costs included in this subcategory include:

1.22031 Test Personnel and Training

1.22032 Test Spares

1.22033 Test AGE/GSE/TE

1.22034 Test Facilities

Cost Formula:

STE = TP + TS + TE + TF

where:

STE = Government full scale development system test and evaluation costs. ($)

TP = Government test personnel and training cost. ($)

TS = Government test spares cost. ($)

TE = Government test equipment costs. ($)

TF = Government test facilities cost. ($)

1.2231 Test Personnel and Training Cost

Definition:

This element refers to Government expenditures necessary to insure that trained personnel are available to conduct tests and evaluate the prototype during full scale development. It includes tha pay & allowance and travel expenses, the course fees and training facilities provided by the Government.

Cost Formula:

$$TP = \sum_{I=1}^{Y} DGTT(I)$$

where:

TP = Government test personnel and training cost. ($)

DGTT(I) = Government expenditures during year I for test personnel and training cost for the full scale development effort. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

1.2232 Test Spares Cost

Definition:

This element refers to the spare equipments, modules, sub-assemblies and components used for maintenance replacement purposes in end items of the prototype equipment. Its purpose is to provide the necessary items to insure operation of the prototype system during the test and evaluation period.

Cost Formula:

$$TS = \sum_{I=1}^{Y} DCTS(I)$$

where:

TS = Government test spares cost. ($)

DCTS(I) = Government expenditures during year I for test spares for the full scale development effort. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

1.2233 Test AGE/GSE/TE Cost

Definition:

This element is for the costs of Aerospace Ground Equipment (AGE), Ground Support Equipment (GSE), and Test Equipment (TE) used for testing and evaluation of the prototype system during the full scale development phase.

Cost Formula:

$$TE = \sum_{I=1}^{Y} DCT(I)$$

where:

TE = Government test equipment costs. ($)

DCT(I) = Government expenditures during year I for AGE/GSE/TE used in support of the Test & Evaluation program during the full scale development phase. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

1.2234 Test Facilities Cost

Definition:

This element refers to Government costs for test site activation/deactivation during full scale development Test & Evaluation program in year I. This refers to the costs for test site modification, transportation and installation of the prototype models at the test site, test site operation, restoration and facilities leased or government facilities used during Test & Evaluation program.

Cost Formula:

$$TF = \sum_{I=1}^{Y} DGTA(I)$$

where:

TF = Government test facilities cost. ($)

DGTA(I) = Government costs for test site activation/deactivation during full scale development Test & Evaluation program in year I. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

1.244 Foreign Military Sales Benefit

Definition:

This element refers to the cost benefits realized by the Government due to the sale of previously developed weapon systems to foreign countries. Moneys received from these sales may be used by the Government to help defray the R&D cost of the major weapon system under analysis.

Cost benefits may be realized by the foreign military sales of the weapon system under analysis during the production phase. This is caused by the lower unit production costs achieved by the manufacturing of larger quantities.

Cost Formula:

$$FMS = \sum_{I=1}^{Y} FM(I)$$

where:

FMS = Foreign military sales benefit. ($)

FM(I) = Moneys received by the Government from the foreign military sales of previously developed weapon systems, to defray the R&D cost of the major weapon system.

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

2. Investment Costs

Definition:

Investment costs refer to all costs associated with the production of system/equipments. This category includes costs for management; materials, farication, assembly, and test of the production units; initial logistics support requirements (e.g., spare provisioning, support equipment and tools, technical publications, initial training, facility construction, etc.) and installation and checkout of the system/equipment for operational use. The costs incurred in this category terminate with the satisfactory turnover of an operationally usable system to the using command or organization.

Cost Formula:

$$IN = AQ + GO$$

where:

IN = Investment costs. ($)

AQ = Acquisition costs. ($)

GO = Government investment costs. ($)

2.1 Acquisition Costs

Definition:

The costs included in this subcategory include:

2.11 Production Hardware

2.12 Peculiar Support Equipment

2.13 Training

2.14 Integration and Test

2.15 Program Management

2.16 Documentation

2.17 Technical Support

2.18 Industrial Facilities

2.19 Initial Spares and Repair Parts

In addition, the overhead cost of general and administrative expenses and contract fee shall be included.

Cost Formula:

$$AQ = APH + PSE + AT + AI + APM + ADO + ATS + AIF + ASRP$$

where:

AQ = Acquisition costs. ($)

APH = Acquisition production hardware cost. ($)

PSE = Acquisition peculiar support equipment cost. ($)

AT = Acquisition training cost. ($)

AI = Acquisition integration and test cost. ($)

APM = Acquisition program management cost. ($)

ADO = Acquisition documentation cost. ($)

ATS = Acquisition technical support cost. ($)

AIF = Acquisition industrial facilities cost. ($)

ASRP = Acquisition initial spares and repair parts cost. ($)

2.11 Production Hardware Cost

Definition:

This cost element includes those production costs incurred by a private business while under contract with the Federal Government, that occur with each unit produced. These costs tend to be subject to a learning curve concept in which the cost per unit decreases as quantity increases. Appendix 1 presents theory of the learning curve concept.

Costs included in this element are:

Manufacturing - Direct labor, overhead and other direct charges incurred during the fabrication, processing, subassembly, final assembly, reworking, modification and installation of parts and equipment to an end item of equipment.

Production Material - All the purchased equipment and parts, subcontracted items and other material that is used in the production of the prime mission equipment. It includes, but is not limited to, raw and processed material, parts, components, assemblies, and small tools and supplies which may be consumed in normal use during the manufacturing process.

Purchased Equipment and Parts - The cost of manufactured and assembled items, usually procured from outside sources by the contractor. Purchased equipment usually costs in excess of $100 per unit and exhibits a wide range of complexity. It is usually termed off-the-shelf equipment and consists of, for example, batteries, motors, generators, air conditioning equipment, hydraulic pumps and instruments. Purchased parts are distinguished from purchased equipment by cost and complexity. Usually, purchased parts cost under $100 per unit and are essentially standard, off-the-shelf hardware items.

Subcontracted Items - The cost of parts, components, and assemblies produced by manufacturers other than the prime contractor in accordance with the prime contractor's design, specifications or directions. It does not include equipment bought off-the-shelf. It does include the cost of transportation or shipment if itemized by the subcontractor.

Other Material - All the raw and semifabricated material, intercompany transfers and other material used in the production of the equipment.

Sustaining Engineering - All engineering performed after quantity production starts in included in this element. This will include such items as maintainability-reliability engineering, maintenance engineering, value engineering, and production engineering. It also includes redesign, evaluation, and other sustaining efforts of the engineering function.

Quality Control and Inspection - This includes such tasks as receiving inspection, in-process and final inspection of tools, parts, subassemblies and complete assemblies. Quality Control is that function of management relative to all procedures, inspections, examinations, and tests required during procurement, production, receipt, storage, and issue that are necessary to provide the user with an item of the required quality.

Cost Formula:

$$APH = \sum_{I=1}^{Y} NN(I) * CQR$$

where:

$$CQR = \frac{AA \sum_{I=1}^{NNN} J^{BB}}{NNN}$$

for which:

$$NNN = \sum_{I=1}^{Y} NN(I)$$

$$BB = \frac{\log SSS}{\log 2}$$

and for which:

APH = Acquisition production hardware cost. ($)

NN(I) = Number of weapon systems introduced into inventory during year I. (systems/yr)

CQR = Average cost of weapon system. ($)

AA = First piece cost of weapon system. ($)

NNN = Total number of weapon systems procured. (systems)

BB = Coefficient factor. (ratio)

SSS = Slope of learning curve, (ratio)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

2.12 Peculiar Support Equipment Cost

Definition:

This element refers to the costs for Organizational level, Intermediate level, Prime Intermediate Maintenance Activity level, and depot level support and test equipments, including costs for design, material, fabrication, tooling, and unit test for all the items. Also included are the materials and services involved with the installation of the support and test equipments.

The support and test equipment refers to the equipment, including tools, required to maintain and care for the system or portions of the system while not directly engaged in the performance of its mission, and which have application peculiar to a given defense material item. This includes, vehicles, equipment, and tools used to service, transport and hoist, repair, overhaul, assemble, disassemble, test, inspect, or otherwise maintain the mission equipment.

Cost Formula:

$$PSE = \sum_{I=1}^{Y} \sum_{C=1}^{D} NSE(I,C) * CSE(C)$$

where:

PSE = Acquisition peculiar support equipment cost. ($)

NSE (I,C) = Total population of support equipments of type C during year I. (equipments/yr)

CSE (C) = Acquisition cost of support equipment type C. ($/equipment)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

2.13 Training Cost

Definition:

This element refers to factory training provided by contractors at their facilities to qualify an initial cadre of skilled personnel to: (1) operate and maintain the weapon system when operationally deployed or (2) initially man the Navy Department's weapon system related courses. This includes all efforts associated with the design, development, and production of training equipment as well as the execution of training services.

Equipment - refers to those distinctive end items of training equipment required to meet specific training objectives. This element includes: for example, operational trainers (i.e., simulators), maintenance trainers, and other items such as cutaways, mockups, and models.

Services - refers to services, devices, accessories, and aids necessary to accomplish the objectives of training. This includes; for example, training plans, training aids, training course materials, new equipment training, etc.

Cost Formula:

$$AT = \sum_{I=1}^{Y} CTE(I) + CTS(I)$$

where:

AT = Acquisition training cost. ($)

CTE(I) = Cost of contractor training equipment in year I. ($/yr)

CTS(I) = Cost of contractor training services in year I. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

2.14 Integration and Test Cost

Definition:

This element refers to the effort of technical and functional activities associated with the design, development, and production of mating surfaces, structures, equipments, parts, and materials required to assemble the major subsystems into a major weapon system as a whole. Integration and test includes all effort associated with:

a. The development of engineering layouts, determination of overall design characteristics, and determination of requirements of design review.

b. The set up, conduct and review of testing assembled components or subsystems prior to installation.

c. The detailed production design.

d. Inspection activities related to receiving, factory and vendor liaison.

e. Design maintenance effort.

f. Quality planning and control.

g. Tooling (planning, design and fabrication)

h. Administrative engineering.

i. The joining or mating and final assembly of level 3 equipment elements to form a complete prime mission equipment when the effort is performed at the manufacturing facility.

j. The conduct of production acceptance testing.

Cost Formula:

$$AI = \sum_{I=1}^{Y} CIT(I)$$

where:

AI = Acquisition integration and test cost. ($)

CIT(I) = Contractor payments paid by the Government during year I for integration and test of the complete weapon system. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

2.15 Program Management Cost

Definition:

This element refers to the technical and administrative planning, organizing, directing, coordinating, controlling, and approval actions designed to accomplish overall program objectives during the investment phase of the equipment life cycle. Examples of these activities are configuration management, cost/schedule management, data management, contract management, liaison, value engineering, quality assurance and integrated logistics support management.

Cost Formula:

$$APM = \sum_{I=1}^{Y} CPM(I)$$

where:

APM = Acquisition program management cost. ($/yr)

CPM(I) = Contractor payments paid by the Government during year I for program management of the production units. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

2.16 Documentation Cost

Definition:

The data element refers to all deliverable data acquired during the investment phase which is required to be listed on a DD Form 1423. The data requirements will normally be selected from the departmental or agency Authorized Data List. It includes the effort for acquiring, writing, assembling, reformatting, reproduction, packaging and shipping.

It includes the following items:

a. Technical Publications

b. Engineering Data

c. Management Data

d. Support Data

Technical Publications - This element refers to those handbooks, technical manuals, technical orders, technical data sheets, etc., required by the Government.

Engineering Data - The engineering data element refers to those engineering drawings, associated lists, specifications, and other documentation required by the Government. This element includes all plans, procedures, reports and documentation pertaining to systems, subsystems, and components engineering and testing.

Management Data - The management data element refers to those data items necessary for configuration management, cost, schedule, contractual data management, programs management, etc., required by the Government.

Support Data - The support data element refers to those data items required by the Government to develop and acquire the Support System. This includes maintenance data, provisioning data and lists, support and test equipment data and lists, logistics support plans and progress reports, technical publications requirements data, training planning data and transportation and handling data, etc.

Cost Formula:

$$ADO = \sum_{I=1}^{Y} AD(I)$$

where:

ADO = Acquisition documentation cost. ($)

AD(I) = Documentation acquisition cost during year I. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

2.17 Technical Support Cost

Definition:

This element refers to those costs which are incurred in support of Government testing (PATE and OTE) during the investment phase of the equipment life cycle.

Production Acceptance Test and Evaluation (PATE) Support - The production acceptance tests are conducted on production items produced early in the production run (generally identified as the "initial production run"). They are designed to assure that production systems and equipment conform to design specifications and performance requirements when manufactured in accordance with production specifications and quantity production processes.

Operational Test and Evaluation (OTE) Support - User Operational Tests and Evaluation (OTE) are tests generally conducted by user personnel (military unit(s)) under conditions of operational tactical environments. They are designed to determine the system/equipment operational effectiveness and validate organization doctrine, tactics, basis of issue, training requirements and logistics support.

Cost Formula:

$$ATS = \sum_{I=1}^{Y} CSU(I)$$

where:

ATS = Acquisition technical support cost. ($)

CSU(I) = Government payments to contractors for technical support during year I of the investment phase. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

2.18 Industrial Facilities Cost

Definition:

The industrial facilities element refers to the construction, conversion, or expansion of facilities for production, inventory, and contractor depot maintenance required by one or more suppliers for the specific system. This element includes; for example, equipment acquisition, or modernization, where applicable, and maintenance of the above facilities or equipment.

Construction/conversion/expansion - refers to the real estate and preparation of system peculiar facilities for production, inventory, depot maintenance, and other related activities.

Equipment acquisition or modernization - refers to production equipment acquisition, modernization, or transferal of equipment for the particular system. (Pertains primarily to government owned and leased equipment under facilities contract.)

Maintenance (industrial facilities) - refers to the maintenance, preservation, and repair of industrial facilities and equipment.

Cost Formula:

$$AIF = \sum_{I=1}^{Y} CIF(I)$$

where:

AIF = Acquisition industiral facilities cost. ($)

CIF(I) = Government payments to contractors for industrial facilities during year I. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

2.19 Initial Spares and Repair Parts Cost

Definition:

The initial spares and repair parts element refers to the initial provisioning of modules, assemblies, and spare components to be used for maintenance replacement purposes in end items of equipment and for repair of end items. Its purpose is to provide the necessary items to operate and maintain the equipment until the supply system comes into routine operation. Quantitative requirements for initial spare and repair parts are determined through logistics support analysis, and are based on the System Stock Requirement and the Total Allowance Quantity.

Cost Formula:

$$ASRP_s = \sum_{I=1}^{Y} NN(I) * CSPS + SS(I) \qquad \text{for ship systems}$$

$$ASRP_a = \sum_{I=1}^{Y} NB(I) * CSPB + SS(I) \qquad \text{for aircraft systems}$$

where:

$ASRP_s$ = Acquisition initial spare and repair parts cost for ship systems.

$ASRP_a$ = Acquisition initial spare and repair parts cost for aircraft systems.

NN(I) = Number of weapon systems introduced into inventory during year I. (systems/yr)

CSPS = Cost of initial spares and repair parts per ship system. ($/system)

SS(I) = Cost of system stock for year I. ($)

NB(I) = Number of newly introduced bases supporting aircraft during year I. (bases)

CSPB = Cost of initial spares and repair parts per aircraft supporting base. ($/base)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

2.2 Government Costs

Definition:

The costs included in this subcategory include:

2.21 GFE/GFM

2.22 Common Support Equipment

2.23 Training

2.24 System Test and Evaluation

2.25 Project Management

2.26 Documentation

2.27 Site Activation

2.28 Supply Introduction

2.29 Transportation

Cost Formula:

$$GO = GFE + GSE + GT + GTE + GPM + GD + GOSA + GSI + GTR$$

where:

GO = Government investment costs. ($)

GFE = GFE/GFM cost. ($)

GSE = Government common support equipment cost. ($)

GT = Government training cost. ($)

GTE = Government system test and evaluation cost. ($)

GPM = Government project management cost. ($)

GD = Government documentation cost. ($)

GOSA = Government site activation costs. ($)

GSI = Government supply introduction cost. ($)

GTR = Government transportation cost. ($)

2.21 GFE/GFM Cost

Definition:

This element refers to the cost of material and equipment supplied by the Government ot the contractor(s) in the production of an end item of equipment.

Cost Formula:

$$GFE = \sum_{I=1}^{Y} NN(I) * GF$$

where:

GFE = GFE/GFM cost. ($)

NN(I) = Number of weapon systems introduced into inventory during year I. (systems/yr)

GF = Cost of GFE/GFM per weapon system. ($/weapon system)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

2.22 Common Support Equipment Cost

Definition:

This element refers to the cost of those items required to support and maintain the weapon system or portions of the system while not directly engaged in the performance of its mission, and which are presently in the DOD inventory for support of other systems. This element includes all effort required to assure availability of this equipment for support of the particular weapon system. It also includes the acquisition of additional quantities of these equipments if caused by the introduction of the weapon system into operational service.

This element should include all requirements at organizational/ intermediate and depot levels of maintenance.

Cost Formula:

$$GSE = \sum_{I=1}^{Y} ASE(I) + AQSE(I)$$

where:

GSE = Government common support equipment cost. ($)

ASE(I) = Government expenditures in year I to make common support equipment available for support of the weapon system. ($/yr)

AQSE(I) = Government expenditures in year I for the acquisition of common support equipment. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

2.23 Training Cost

Definition:

This element refers to training services, devices, accessories, aids, equipment, and parts used to facilitate instruction through which personnel will acquire sufficient concepts, skills, and aptitudes to operate and maintain the system with maximum efficiency. This element includes all effort associated with the design, development, and production of training equipment as well as the execution of training services.

The cost included in this element are:

Equipment
Services
Facilities

Equipment - refers to those distinctive end items of training equipment required to meet specific training objectives. This element includes: operational trainers, maintenance trainers and other items such as cutaways, mockups, and models.

Services - refers to services, devices, accessories, and aids necessary to accomplish the objectives of training. This element includes: training plans, training aids, training course materials, new equipment training, etc.

Facilities - refers to that special construction necessary to accomplish the objectives of training. (Primarily, the brick-and-mortar-type facility constructed solely for the training mission.)

Cost Formula:

$$GT = \sum_{I=1}^{Y} TRE(I) + TRS(I) + TRF(I)$$

where:

GT = Government training cost. ($)

TRE(I) = Government expenditures in year I for training equipment. ($/yr)

TRS(I) = Government expenditures in year I for training services. ($/yr)

TRF(I) = Government expenditures in year I for training facilities. ($/yr)

I = Designator for a spcific project year.

Y = Number of years in life cycle. (yrs)

2.24 System Test and Evaluation Cost

Definition

This element refers to costs which are incurred for Production Acceptance Test and Evaluation (PATE) and Operational Test and Evaluation (OTE). PATE are conducted on production items produced early in the production run. They are designed to assure that production equipments conform to design specifications and performance requirements when manufactured in accordance with production specifications. Operational tests are conducted by user personnel under the conditions of the tactical environment. They are designed to determine the equipment operational effectiveness and validate organization doctrine, tactics, training requirements and logistics support.

Cost Formula:

$$GTE = \sum_{I=1}^{Y} PTE(I)$$

where:

GTE = Government system test and evaluation cost. ($)

PTE(I) = Test and evaluation costs incurred in year I. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

2.25 Project Management Cost

Definition:

This element refers to the technical and administrative planning, organizing, directing, coordinating, controlling and approval actions designed to accomplish overall program objectives. Examples of these activities are configuration management, cost/schedule management, data management, contract management, value engineering, quality assurance, and integrated logistics management.

Cost Formula:

$$GPM = \sum_{I=1}^{Y} PMG(I)$$

where:

GPM = Government project management cost. ($)

PMG(I) = Government project management cost incurred during year I. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

2.26 Documentation Cost

Definition:

This element refers to the costs to the Government for storing, reproducing, packaging and shipping technical and managerial data.

Cost Formula:

$$GD = \sum_{I=1}^{Y} DC(I)$$

where:

GD = Government documentation cost. ($)

DC(I) = Government expenditures in year I for storing, reproducing, packaging and shipping technical and managerial data. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

2.27 Site Activation Costs

Definition:

This element refers to the real estate, construction, conversion utilities, and equipment to provide all facilities required to house, service, and launch prime mission equipment. It also includes contractor support.

Cost Formula:

$$GOSA = OSA + MFA$$

where:

GOSA = Government site activation costs. ($)

OSA = Operational site activation cost. ($)

MFA = Maintenance facility activation cost. ($)

2.271 Operational Site Activation Cost

Definition:

This element refers to that portion of site activation costs for facilities required to launch prime mission equipment. It includes conversion of site, ship; system assembly, checkout, and installation into site facility or ship to achieve operational status.

Cost Formula:

$$OSA = \sum_{I=1}^{Y} SA(I)$$

where:

OSA = Operational site activation cost. ($)

SA(I) = Government expenditures in year I for operational site activation. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle (yrs)

2.272 Maintenance Facility Activation Cost

Definition:

This element refers to that portion of site activation cost for facilities required to service or maintain the prime mission equipment. It includes intermediate and depot facilities.

Cost Formula:

$$MFA = \sum_{I=1}^{Y} FA(I)$$

where:

MFA = Maintenance facility activation cost. ($)

FA(I) = Government expenditures in year I for maintenance facility activation. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

2.28 Supply Introduction Cost

Definition:

This element refers to the management costs for entering an item introduced into the supply system by the prime equipment and support systems, in inventory. The costs include identification, description, submission to and screening and editing by Data Documents Center, and inclusion in maintenance supply catalogs.

Cost Formula:

$$GSI = \sum_{I=IYI}^{IXI} (NSNP + NSNS) * RIE$$

where:

GSI = Government supply introduction cost. ($)

NSNP = Number of new National Stock Numbers (NSN) introduced into supply system by the major weapon system. (NSN's)

NSNS = Number of new NSN's introduced into supply system by support systems of the major weapon system. (NSN's)

RIE = Average NSN entry into the supply system cost. ($/NSN)

I = Designator for a specific project year.

IYI = Year I during which initial costs occur.

2.29 Transportation Cost

Definition

This refers to the cost associated with transporting the weapon system from the point of procurement, production, or testing to the first destination point.

Cost Formula:

$$GTR = \sum_{I=1}^{Y} NN(I) * CTPE$$

where:

GTR = Government transportation cost. ($)

NN(I) = Number of weapon systems introduced into inventory during year I. (systems/yr)

CTPE = First destination transportation cost for the weapon system. ($/system)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

3. Operating and Support Costs

Definition:

Operating and support costs refer to all costs associated with the operation and logistics support of the system subsequent to equipment turnover to the using command or organization. Specifically, this covers all Government ownership costs including operation costs, maintenance costs, and logistics support costs.

Operation costs refer to all costs associated with the direct operation of the system. This includes all costs of electrical power, consumable materials and operational personnel. Maintenance and support costs refer to all costs associated with the maintenance and supply support of the system during the system's operational life.

Cost Formula:

$$OS = OP + IMA + IS + DM + DS + SDT + PST + SI$$

where:

OS = Operating and support costs. ($)

OP = Operating costs. ($)

IMA = Organizational/Intermediate maintenance activity costs. ($)

IS = Installation support costs. ($)

DM = Depot maintenance costs. ($)

DS = Depot supply costs. ($)

SDT = Second destination transportation costs. ($)

PST = Personnel support and training costs. ($)

SI = Sustaining investments costs. ($)

3.1 Operating Costs

Definition:

The cost of manpower, fuel, material, and other operating expenses chargeable to the non-maintenance activities of the weapon system including contractual support.

Cost Formula:

$$OP = CR + STA + MAT + SEC + OTH + PER$$

where:

OP = Operating costs. ($)

CR = Crew cost. ($)

STA = Staff cost. ($)

MAT = Material cost. ($)

SEC = Security cost. ($)

OTH = Other deployed manpower cost. ($)

PER = Personnel support cost. ($)

3.11 Crew Cost

Definition:

The cost of pay and allowances of personnel required to man the weapon system; and the cost associated with the temporary assignment of personnel away from the deployed system for training, administrative or other purposes. These costs include transportation, lodging, mileage and per diem allowances and incidental travel expenses.

Cost Formula:

$$CR = \sum_{I=1}^{Y} \sum_{A=1}^{B} NCR(I,A) * \left[PA(A) + TAD \right]$$

where:

CR = Crew cost. ($)

NCR (I,A) = Total number of crew personnel of grade A in year I. (men)

PA (A) = Annual pay and allowances per man of grade A. ($/man)

TAD = Annual temporary assignment of duties cost per member of crew. ($/man)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

A = Designator for a specific grade of crew personnel.

B = Number of different grades of crew personnel. (grades)

3.12 Staff Cost

Definition:

Aircraft only: The cost of paying the personnel required for unit flying supervision. These personnel perform such jobs as command, operations control, planning and scheduling, flying safety, quality control on aircrew training and flying proficiency and include the combat commander, the squadron commanders and their respective staffs.

Cost Formula:

$$STA = \sum_{I=1}^{Y} \sum_{E=1}^{F} NSTA(I,E) * PAS(E)$$

where:

STA = Staff Cost. ($)

NSTA(I,E) = Total number of command staff personnel of grade E in year I. (men)

PAS(E) = Annual pay and allowances per man of grade E. ($/man)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

E = Designator for a specific grade of command staff personnel.

F = Number of different grades of command staff personnel. (grades)

3.13 Material Cost

Definition:

This element refers to the costs incurred for items actually consumed in the operation of the equipment. It includes: pertroleum, oil and lubricants; repart parts used for equipment repair, but not considered reparable themselves; and consumable supplies and equipage items not directly related to the support of specific equipment or systems.

Cost Formula:

$$MAT = \sum_{I=1}^{Y} NNN(I) * MATS$$

where:

$$NNN(I) = \sum_{G=1}^{I} NN(G)$$

for which:

MAT = Material cost. ($)

NNN(I) = Total number of weapon systems procured through year I. (systems)

MATS = Material cost per system per year. ($/system)

NN(G) = Number of weapon systems introduced into inventory during year G. (systems/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

G = Designator for a specific project year.

3.14 Security Cost

Definition:

The element refers to the cost of paying personnel needed for equipment security. For example, entry control, close and distant boundary support, and security alert teams.

Cost Formula:

$$SEC = \sum_{I=1}^{Y} ASEC(I)$$

where:

SEC = Security cost. ($)

ASEC(I) = Security cost incurred during year I. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

3.15 Other Deployed Manpower Cost

Definition:

The cost of paying all other personnel (for example, public information and social action people) assigned to a typical deployed unit, except those personnel included in cost elements 3.11 (Crew), 3.12 (Staff), and 3.2 (Organizational/Intermediate Maintenance Activity).

Cost Formula:

$$OTH = \sum_{I=1}^{Y} ODM(M)$$

where:

OTH = Other deployed manpower cost. ($)

ODM(I) = Government expenditures in year I for other deployed manpower. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

3.16 Personnel Support Cost

Definition:

The cost of supplies, services and equipment needed to support deployed unit personnel. Examples of included costs are administrative supply items; travel expenses; expendable office machines and equipment; custodial services; and other variables personnel-oriented support costs incurred at the deployed unit.

Cost Formula:

$$PER = \sum_{I=1}^{Y} PSC(I)$$

where:

PER = Personnel support cost. ($)

PSC(I) = Government expenditures in year I for personnel support. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

3.2 Organizational/Intermediate Maintenance Activity Costs

Definition:

This element refers to the cost of manpower and material needed for maintenance of deployed unit weapon systems, support equipment and ordnance including contractual support.

Cost Formula:

IMA = AFL + ASH

where:

IMA = Organizational/Intermediate maintenance activity costs. ($)

AFL = Afloat facilities costs. ($)

ASH = Ashore facilities costs. ($)

3.21 Afloat Facilities Costs

Definition:

The cost of manpower, material, services and repair parts needed for afloat maintenance activity availabilities. For aircraft systems, afloat facilities refer to aircraft carriers; for ship systems, afloat facilities refer to tenders and repair ships.

Cost Formula:

AFL = AFLL + AFLM + AFLP + AFLS

where:

AFL = Afloat facilities cost. ($)

AFLL = Afloat facilities labor costs. ($)

AFLM = Afloat facilities material cost. ($)

AFLP = Afloat facilities personnel support cost. ($)

AFLS = Afloat facilities site maintenance cost. ($)

3.211 Afloat Facilities Labor Costs

Definition:

This element refers to the cost of paying the personnel excluding crew needed to meet below depot maintenance requirements (including contractor support) of the deployed unit and its ordnance. For the case of aircraft systems, it includes organizational and interemediate level maintenance personnel on the aircraft carrier; for ship systems, it includes the interemdiate level personnel on tenders and repair ships.

Cost Formula:

AFLL = AFLW + AFLO

where:

AFLL = Afloat facilities labor costs. ($)

AFLW = Afloat facilities weapon system maintenance laobr cost. ($)

AFLO = Afloat facilities ordnance maintenance labor cost. ($)

3.2111 Afloat Facilities Weapon System Maintenance Labor Cost

Definition:

This element refers to the cost of paying personnel needed to meet below depot maintenance requirements. For aircraft systems: included are personnel needed to meet maintenance of the assigned aircraft and aircraft support equipment; precision measurement laboratory equipment; training simulators; and support equipment: to provide for maintenance supervision and control: and to cover administrative requirements such as leave. For ship systems: the cost of direct labor expended by tender and repair ship personnel.

Cost Formula:

$$AFLW = \sum_{I=1}^{Y} \sum_{T=1}^{U} NMP(I,T) * MS(T) * POT(T)$$

where:

AFLW = Afloat facilities weapon system maintenance labor cost. ($)

NMP(I,T) = Number of personnel of grade T maintaining the weapon system during year I. (men/grade/yr)

MS(T) = Unit pay and allowance of grade T personnel. ($/man)

POT(T) = Proportion of time personnel of grade T are dedicated to weapon system. (ratio)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

T = Designator for a specific pay grade.

U = Number of different pay grades of personnel maintaining the weapon system. (grades)

3.2112 Afloat Facilities Ordnance Maintenance Labor Cost

Definition:

Aircraft only: The cost of paying the personnel needed for: loading, unloading, arming and dearming of munitions and missiles; inspection, testing and maintenance of all aircraft weapons release systems; maintenance ammunition loading, activation and deactivation of aircraft gun systems; and maintenance and handling of the munitions and missile stockpile authorized by the War Reserve Material plan.

Cost Formula:

$$AFLO = \sum_{I=1}^{Y} \sum_{V=1}^{W} NOP(I,V) * MSO(V)$$

where:

AFLO = Afloat facilities ordnance maintenance labor cost. ($)

NOP(I,V) = Number of personnel of grade V maintaining ordnance systems during year I. (men/grade/yr)

MSO(V) = Unit pay and allowance of grade V personnel. ($/man)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

V = Designator for a specific pay grade.

W = Number of different pay grades of personnel maintaining the ordnance systems. (grades)

3.212 Afloat Facilities Material Cost

Definition:

The cost of material and repair parts consumed by the afloat facilities in support of the weapon system. This incudes only non-repairable expense items; repairable items are included in cost element 3.81 (Replenishment Spares).

Cost Formula:

$$AFLM = \sum_{I=1}^{Y} NNN(I) * RMF$$

where:

$$NNN(I) = \sum_{G=1}^{I} NN(G)$$

for which:

AFLM = Afloat facilities material cost. ($)

NNN(I) = Total number of weapon systems procured through year I. (systems)

RMF = Repair material cost per system per year. ($/system)

NN(G) = Number of weapon systems introduced into inventory during year G. (systems/yr.)

I = Designator for a specific project year

Y = Number of years in life cycle. (yrs)

G = Designator for a specific project year.

3.213 Afloat Facilities Personnel Support Cost

Definition:

The cost of supplies, services and equipment needed to support aircraft organizational and intermediate level personnel or tender and repair ship intermediate level personnel. Examples of included costs are administrative supply items; travel expenses; expendable office machines and equipment; custodial services; and other variable personnel-oriented support costs incurred at the maintenance activities.

Cost Formula:

$$AFLP = \sum_{I=1}^{Y} APS(I)$$

where:

AFLP = Afloat facilities personnel support cost. ($)

APS(I) = Government expenditures in year I for personnel support at afloat facilities. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

3.214 Afloat Facilities Site Maintenance Cost

Definition:

This element refers to the cost of maintaining the afloat facilities used to service the major weapon system. This element includes the material and labor costs used to renovate the facilities.

Cost Formula:

$$AFLS = \sum_{I=1}^{Y} MFC(I)$$

where:

AFLS = Afloat facilities site maintenance cost. ($)

MFC(I) = Government expenditures during year I for maintenance of the afloat facilities. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

3.22 Ashore Facilities Costs

Definition:

The cost of manpower, material, sevices and repair parts needed for ashore maintenance activity availabilities. For aircraft systems, ashore facilities refer to Naval Air Stations (NASs).

Cost Formula:

$$ASH = ASLL + ASLM + ASLP + ASLS$$

where:

ASH = Ashore facilities costs. ($)

ASLL = Ashore facilities labor costs. ($)

ASLM = Ashore facilities material cost. ($)

ASLP = Ashore facilities personnel support cost. ($)

ASLS = Ashore facilities site maintenance cost. ($)

3.221 Ashore Facilities Labor Costs

Definition:

This element refers to the cost of paying the personnel excluding crew needed to meet below depot maintenance requirements (including contractor support) of the deployed unit and its ordnance. For the case of aircraft systems, it includes organizational and intermediate level maintenance personnel at the NAS; for ship systems, it includes intermediate level personnel at ashore Intermediate Maintenance Activities (IMA's).

Cost Formula:

ASLL = ASLW + ASLO

where:

ASLL = Ashore facilities labor costs. ($)

ASLW = Ashore facilities weapon system maintenance labor cost. ($)

ALSO = Ashore facilities ordnance maintenance labor cost. ($)

3.2211 Ashore Facilities Weapon System Maintenance Labor Cost

Definition:

This element refers to the cost of paying personnel needed to meet below depot maintenance requirements. For aircraft systems: included are personnel needed to meet maintenance of the assigned aircraft and aircraft support equipment; precision measurement laboratory equipment; training simulators; and support equipment: to provide for maintenance supervision and control: and to cover administrative requirements such as leave. For ship systems: the cost of direct labor expended by ashore IMA personnnel.

Cost Formula:

$$ASLW = \sum_{I=1}^{Y} \sum_{T=1}^{U} NMPA(I,T) * MS(T) * POT(T)$$

where:

ASLW = Ashore facilities weapn system maintenance labor cost. ($)

NMPA(I,T) = Number of personnel of grade T maintaining the weapon system during year I. (men/grade/yr)

MS(T) = Unit pay and allowance of grade T personnel. ($/man)

POT(T) = Proportion of time personnel of grade T are dedicated to weapon system. (ratio)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

T = Designator for a specific pay grade.

U = Number of different pay grades of personnel maintaining the weapon system. (grades)

3.2212 Ashore Facilities Ordnance Maintenance Labor Cost

Definition:

Aircraft only: The cost of paying the personnel needed for: loading, unloading, arming and dearming of munitions and missiles; inspection, testing and maintenance of all aircraft weapons release systems; maintenance, ammunition loading, activation and deactivation of aircraft gun systems; and maintenance and handling of the munitions and missile stockpile authorized by the War Reserve Material Plan.

Cost Formula:

$$ASLO = \sum_{I=1}^{Y} \sum_{V=1}^{W} NOPA(I,V) * MSO(V)$$

where:

ASLO = Ashore facilities ordnance maintenance labor cost. ($)

NOPA(I,V) = Number of personnel of grade V maintaining ordnance systems during year I. (men/grade/yr)

MSO(V) = Unit pay and allowance of grade V personnel. ($/man)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

V = Designator for a specific pay grade.

W = Number of different pay grades of personnel maintaining the ordnance systems. (grades)

3.222 Ashore Facilities Material Cost

Definition:

The cost of material and repair parts consumed by the ashore facilities in support of the weapon system. This includes only non-repairable expense items; repairable items are included in cost element 3.81 (Replenishment Spares)

Cost Formula:

$$ASLM = \sum_{I=1}^{Y} NNN(I) * RMFA$$

where:

$$NNN(I) = \sum_{G=1}^{I} NN(G)$$

for which:

ASLM = Afloat facilities material cost. ($)

NNN(I) = Total number of weapon systems procured through year I. (systems)

RMFA = Repair material cost per system per year. ($/system)

NN(G) = Number of weapon systems introduced into inventory during year G. (systems/yr)

I = Designator for a specific project year

Y = Number of years in life cycle. (yrs)

G = Designator for a specific project year.

3.223 Ashore Facilities Personnel Support Cost

Definition:

The cost of supplies, services and equipment needed to support NAS organizational and intermediate level personnel or ashore intermediate level personnel. Examples of included costs are administrative supply items; travel expenses; expendable office machines and equipment; custodial sevices; and other variable personnel-oriented support costs incurred at the maintenance activities.

Cost Formula:

$$ASLP = \sum_{I=1}^{Y} APSA(I)$$

where:

ASLP = Ashore facilities personnel support cost. ($)

APSA(I) = Government expenditures in year I for personnel support at ashore facilities. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

3.224 Ashore Facilities Site Maintenance Cost

Definition:

This element refers to the cost of maintaining the ashore facilities used to service the major weapon system. This element includes the material and labor costs used to renovate the facilities.

Cost Formula:

$$ASLS = \sum_{I=1}^{Y} MFCA(I)$$

where:

ASLS = Ashore facilities site maintenance cost. ($)

MFCA(I) = Government expenditures during year I for maintenance of the ashore facilities. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

3.3 Installation Support Costs

Definition:

This element refers to the variable cost of providing support for deployed unit personnel at the unit's support installation(s). It includes contractual support.

Cost Formula:

$$IS = BOS + RPM + PS$$

where:

IS = Installaton support costs. ($)

BOS = Base operating support cost. ($)

RPM = Real property maintenance cost. ($)

PS = Installation personnel support cost. ($)

3.31 Base Operating Support Cost

Definition:

The cost of installation personnel and material necessary to directly support the deployed unit. Examples of installation functions which directly support the unit include food service, supply and motor pool operations. These personnel and material costs would no longer be incurred by the installation if the deployed unit were moved elsewhere.

Cost Formula:

$$BOS = \sum_{I=1}^{Y} BOSC(I)$$

where:

BOS = Base operating support cost. ($)

BOSC = Government expenditures during year I for base operating support. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

3.32 Real Property Maintenance Cost

Definition:

This element refers to the variable costs of construction, maintenance and operation of real property facilities, and related management and engineering support work and services.

Cost Formula:

$$RPM = \sum_{I=1}^{Y} RPMC(I)$$

where:

RPM = Real property maintenance cost. ($)

PPMC(I) = Government expenditures during year I for real property maintenance. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

3.33 Installation Personnel Support Cost

Definition:

This element refers to the cost of supplies, services and equipment needed to support installation support personnel. Examples of included costs are administrative supply items; travel expenses; expendable office machines and equipment; custodial services; and other variable personnel-oriented support costs incurred at the installation(s).

Cost Formula:

$$PS = \sum_{I=1}^{Y} IPS(I)$$

where:

PS = Installation personnel support cost. ($)

IPS(I) = Government expenditures during year I for installation personnel support. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

3.4 Depot Maintenance Costs

Definition:

The cost of manpower and material needed to perform overhaul, progressive maintenance, analytical rework, modification, repair, inspection and test, manufacture and reclamation of the weapon system and subsystems, components, parts and support equipment at centralized and contractor repair facilities.

Cost Formula:

$$DM = SM + UM + MOD + DCR$$

where:

DM = Depot maintenance costs. ($)

SM = Depot scheduled maintenance cost. ($)

UM = Depot unscheduled maintenance cost. ($)

MOD = Depot modernization cost. ($)

DCR = Depot component repair cost. ($)

3.41 Depot Scheduled Maintenance Cost

Definition:

This element refers to the depot rework/overhaul labor and material costs for equipments in the weapon system.

Cost Formula:

$$DM = \sum_{I=1}^{Y} \sum_{X=1}^{Z} NNN(I) * OT * GOH(X)/MTGO(X)$$

where:

$$NNN(I) = \sum_{G=1}^{I} NN(G)$$

for which:

DM = Depot scheduled maintenance cost. ($)

NNN(I) = Total number of weapon systems procured through year I. (systems)

OT = Annual operating time of the weapon system. (hrs/system/yr)

GOH(X) = Depot rework/overhaul cost for equipment X. ($/(rework/overhaul))

MTGO(X) = Mean time between depot rework/overhaul of the Xth equipment (hrs/(rework/overhual))

NN(G) = Number of weapon systems introduced into inventory during year G. (systems/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

X = Designator for a specific equipment

Z = Number of equipments in the weapon system subjected to depot rework/overhaul. (equipments)

G = Designator for a specific project year.

3.42 Depot Unscheduled Maintenance Cost

Definition:

This element refers to the depot labor and material costs for unscheduled maintenance for equipments in the weapon system.

Cost Formula:

$$UM = \sum_{I=1}^{Y} \sum_{CC=1}^{DD} NNN(I) * OT * BCM(CC) * GMC(CC)/MTBF(CC)$$

where:

$$NNN(I) = \sum_{G=1}^{I} NN(G)$$

for which:

UM = Depot unscheduled maintenance cost. ($)

NNN(I) = Total number of weapon systems procured through year I. (systems)

OT = Annual operating time of the weapon system. (hrs/system/yr)

BCM(CC) = Beyond capability rate of equipment CC. (ratio)

GMC(CC) = Depot repair material and labor cost for equipment CC. ($/failure)

MTBF(CC) = Mean time between failures of the CCth equipment. (hrs/failure)

NN(G) = Number of weapon systems introduced into inventory during year G. (systems/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

CC = Designator for a specific equipment

DD = Number of equipments in the weapon system subjected to depot maintenance. (equipments)

G = Designator for a specific project year.

3.43 Depot Modernization Cost

Definition:

The cost of the installation of alterations and improvements (for example, SHIPALTS and ORDALTS) to effect changes in a system's configuration or equipment to improve its safety, habitability, maintainability, or technical characteristics. This cost is primarily a labor cost, although the cost of common, miscellaneous industrial material locally procured or fabricated by the installation activity is also included. The labor cost will include a pro rata share of variable installation overhead costs. Special material required for these alterations or modifications is covered in element 3.82.

Cost Formula:

$$MOD = \sum_{I=1}^{Y} NNN(I) * MODC(I)$$

where:

$$NNN(I) = \sum_{G=1}^{I} NN(G)$$

for which:

MOD = Depot modernization cost. ($)

NNN(I) = Total number of weapon systems procured through year I. (systems)

MODC(I) = Modernization cost per weapon system during year I. ($/system)

NN(G) = Number of weapon systems introduced into inventory during year G. (systems/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

G = Designator for a specific project year.

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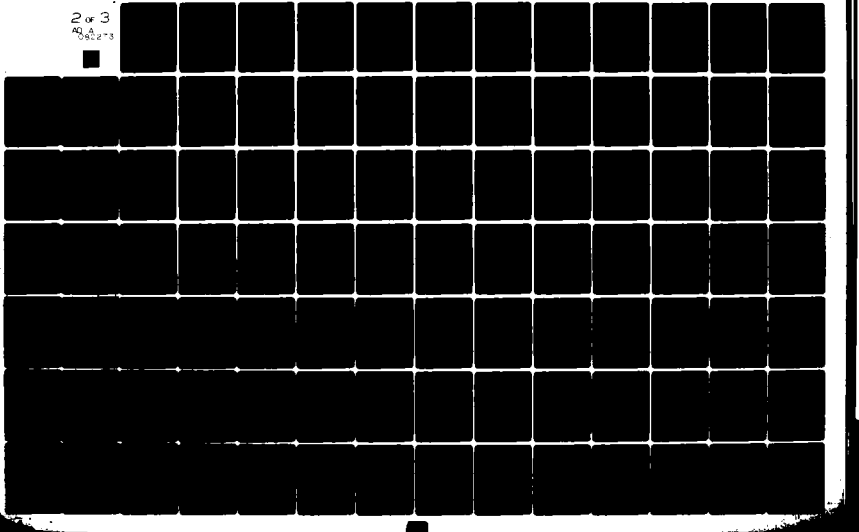

3.44 Depot Component Repair Cost

Definition:

Ship systems only: The labor and material cost of the repair, calibration, and testing of the ship's equipment and components at industrial facilities. Missiles and other ordnance, ordnance equipment and components, and electronic, hull, mechanical, and electrical equipment and components designated for repair at industrial facilities are included.

Cost Formula:

$$CDR = \sum_{I=1}^{Y} NNN(I) * DCRS$$

where:

$$NNN(I) = \sum_{G=1}^{I} NN(G)$$

for which:

DCR = Depot component repair cost. ($)

NNN(I) = Total number of weapon systems procured through year I. (systems)

DCRS = Depot labor and material cost per ship per year for component repair. ($/ship/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

G = Designator for a specific project year.

3.5 Depot Supply Costs

Definition:

The cost of manpower and material needed to buy, store, package, manage and control the supplies, spares and repair parts used in operating and maintaining the weapon and components and support equipment; and to provide system sustaining (service) engineering and technical data support for the systems. Includes contractual support.

Cost Formula:

$$DS = MM + TES$$

where:

DS = Depot supply costs. ($)

MM = Material management cost. ($)

TES = Technical support cost. ($)

3.51 Material Management Cost

Definition:

The cost of manpower and material needed to fill requisitions for supplies, spares and repair parts. Included are receiving, unpacking, storage, inspection and packing and crating costs; the cost of manpower and material needed to manage the procurement of supplies, spares and repair parts and maintain control and accountability of these assets.

Cost Formula:

$$MM = \sum_{I=1}^{Y} NSNP + NSNS * RIM + FSA * NMFP(I) * NSNP + NMFS(I) * NSNS$$

where:

MM = Government material management cost. ($)

NSNP = Number of new National Stock Numbers (NSNs) introduced into supply system by the major weapon system. (NSNs)

NSNS = Number of new NSNs introduced into supply system by support systems of the major weapon system. (NSNs)

RIM = Average NSN retention cost in the supply system. ($/NSN/yr)

FSA = Field supply administration cost of the NSN. ($/NSN/site/yr)

NMFP(I) = Number of maintenance facilities servicing the major weapon system in year I. (sites)

NMFS(I) = Number of maintenance facilities servicing support systems of the major weapon system in year I. (sites)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

3.52 Technical Support Cost

Definition:

The cost of sustaining (service) engineering and technical data and documents needed to perform sustaining engineering and maintenance of weapon system components and support equipment.

Cost Formula:

$$TES = \sum_{I=1}^{Y} TESC(I)$$

where:

TES = Technical support cost. ($)

TESC(I) = Government expenditures for technical support during year I. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

3.6 Second Destination Transportation Costs

Definition:

This cost element includes packaging, handling and transportation of spares, repair parts and other material between organizational, intermediate, depot and supply points (overseas and CONUS) in support of maintenance operations. Also included is the transportation of the end item to the depot and return for the purpose of depot rework/overhual.

Cost Formula:

$$SDT = SSDT + USDT$$

where:

SDT = Second destination transportation costs. ($)

SSDT = Scheduled maintenance transportation cost. ($)

USDT = Unscheduled maintenance transportation cost. ($)

3.61 Schedule Maintenance Transportation Cost

Definition:

This element refers to that portion of second destination transportation cost incurred by scheduled maintenance of items in the weapon system.

Cost Formula:

$$SSDT = \sum_{I=1}^{Y} \sum_{X=1}^{Z} NNN(I) * OT * \left[ATNS(X) + ALR(X) + AMTR(X)\right] / MTGO(X)$$

where:

$$NNN(I) = \sum_{G=1}^{I} NN(G)$$

for which

SSDT = Scheduled maintenance transportation cost. ($)

NNN(I) = Total number of weapon systems procured through year I. (systems)

OT = Annual operating time of the weapon system. (hrs/system/yr)

ATNS(X) = Average two way shipping cost incurred in the process of shipping rework/overhaul items in equipment X from intermediate to depot level maintenance facility and return. ($/(rework/overhaul))

ALR(X) = Average two way packaging labor cost incurred during the process of shipping rework/overhaul items in equipment X between the intermediate and depot level maintenance facilities. ($/(rework/overhaul))

AMTR(X) = Average packaging material cost incurred during the process of shipping rework/overhaul items in equipment X between the intermediate and depot level maintenance facilities. ($/(rework/overhaul))

MTGO(X) = Mean time between depot rework/overhaul of the Xth equipment (hrs/(rework/overhaul)).

NN(G) = Number of weapon systems introduced into inventory during year G. (systems/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

X = Designator for a specific equipment

Z = Number of equipments in the weapon system subjected to depot rework/overhaul. (equipments)

G = Designator for a specific project year.

3.62 Unscheduled Maintenance Transportation Cost

Definition:

This element refers to that portion of second destination transportation cost incurred by unscheduled maintenance of items in the weapon system.

Cost Formula:

$$USDT = \sum_{I=1}^{Y} \sum_{CC=1}^{DD} NNN(I) * OT * BCM(CC) * \left[ATRN(CC) + ALBR(CC) + AMAT(CC) \right] / MTBF(CC)$$

where:

$$NNN(I) = \sum_{G=1}^{I} NN(G)$$

for which:

USDT = Unscheduled maintenance transportation cost. ($)

NNN(I) = Total number of weapon systems procured through year I. (systems)

OT = Annual operating time of the weapon system. (hrs/system/yr)

BCM(CC) = Average beyond capability of maintenance rate of item in equipment CC. (BCM's/failure)

ATRN(CC) = Average two way shipping cost incurred in the process of shipping failed items in equipment CC from intermediate to depot level maintenance facility and return. ($/BCM)

ALBR(CC) = Average two way packaging labor cost incurred during the process of shipping failed items in equipment CC between the intermediate and depot level maintenance facilities. ($/BCM)

AMAT(CC) = Average packaging material cost incurred during the process of shipping failed items in equipment CC between the intermediate and depot level maintenance facilities. ($/BCM)

MTBF(CC) = Mean time between failures of the CCth equipment. (hrs/failure)

NN(G) = Number of weapon systems introduced into inventory during year G. (systems/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

CC = Designator for a specific equipment.

DD = Number of equipments in the weapons system subjected to depot maintenance. (equipments)

G = Designator for a specific project year.

3.7 Personnel Support and Training Costs

Definition:

This element accounts for the variable cost of replacement training; moving; health care and support of personnel.

Cost Formula:

PST = TRA + HC + PAC + PES

where:

PST = Personnel support and training costs. ($)

TRA = Individual training cost. ($)

HC = Health care cost. ($)

POAC = Personnel activities cost. ($)

PES = Personnel support cost. ($)

3.71 Individual Training Cost

Definition:

This element accounts for the replacement costs associated with training personnel to operate and maintain the weapon system. This element includes the replacement cost of training equipment as well as the services cost associated with training personnel to replace those lost through attrition.

Cost Formula:

$$TRA = \sum_{I=1}^{Y} RTRE(I) + RTRS(I)$$

where:

TRA = Government attrition training cost. ($)

RTRE(I) = Government expenditures in year I for replacement training equipment. ($/yr)

RTRS(I) = Government expenditures in year I for training services for personnel replacing those lost through attrition. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

3.72 Health Care Cost

Definition:

The variable cost of providing medical support to deployed unit, below-depot maintenance, installation support and training pipeline personnel including:

-- the pay of medical personnel who provide this support
-- the cost of medical material

Cost Formula:

$$HC = \sum_{I=1}^{Y} HCC(I)$$

where:

HC = Health care cost. ($)

HCC(I) = Government expenditures in year I for health care. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

3.73 Personnel Activities Cost

Definition:

The permanent change of station costs of: deployed unit, below-depot maintenance, installation support, training pipeline and medical personnel.

Cost Formula:

$$PAC = \sum_{I=1}^{Y} PACC(I)$$

where:

PAC = Personnel activities cost. ($)

PACC(I) = Government expenditures during year I for personnel activities. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

3.74 Personnel Support Cost

Definition:

The cost of supplies, services and equipment needed to support training pipeline and medical personnel. Examples of included costs are administrative supply items; travel expenses; expendable office equipment and machines; custodial services; and other variable personnel-oriented support costs incurred at training centers and medical facilities.

Cost Formula:

$$PES = \sum_{I=1}^{Y} PESC(I)$$

where:

PES = Personnel support cost. ($)

PESC(I) = Government expenditures during year I for personnel support. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

3.8 Sustaining Investments Costs

Definition:

This element refers to the cost of procuring spares, modification kits and material, support equipment and training ordnance needed to sustain deployed unit peacetime operations.

Cost Formula:

$$SI = RS + MDF + RSE + EXS$$

where:

SI = Sustaining investments costs. ($)

RS = Replenishment spares cost. ($)

MDF = Modifications cost. ($)

RSE = Replenishment support equipment cost. ($)

EXS = Expendable stores cost. ($)

3.81 Replenishment Spares Cost

Definition:

Replenishment spares cost accounts for the recurring cost of inventory (parts, subassemblies, assemblies, units, etc.) purchased to resupply the system stock requirement due to items being discarded or scrapped during the maintenance process. Inventory already purchased as initial spares and repair parts is not included.

Cost Formula:

$$RS = \sum_{I=1}^{Y} \sum_{EE=1}^{FF} NNN(I) * OT * ACST(EE) * ADSC(EE) / MTBF(EE)$$

where:

$$NNN(I) = \sum_{G=1}^{I} NN(G)$$

for which:

RS = Replenishment spares cost. ($)

NNN(I) = Total number of weapon systems procured through year I. (systems)

OT = Annual operating time of the weapon system. (hrs/system/yr)

ACST(EE) = Average cost of item per discard or scrap maintenance action to the EEth equipment. ($/scrap action)

ADSC(EE) = Average scrap rate of items in the EEth equipment. (scrap actions/failures)

MTBF(EE) = Mean Time Between Failure of the EEth equipment. (hrs/failure)

NN(G) = Number of weapon systems introduced into inventory during year G. (systems/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

EE = Designator for a specific equipment.

FF = Number of equipments in the weapon system. (equipments)

G = Designator for a specific project year.

3.82 Modifications Cost

Definition:

The cost of the acquisition of special material for alterations or modifictions needed for effecting improvements in the weapon system's safety, habitability, maintainability, or technical characteristics. Included are spares for modified equipment.

Cost Formula:

$$MDF = \sum_{I=1}^{Y} NNN(I) * MODK(I)$$

where:

$$NNN(I) = \sum_{G=1}^{I} NN(G)$$

for which:

MDF = Modifications cost. ($)

NNN(I) = Total number of weapon systems procured through year I. (systems)

MODK(I) = Modification kit cost per weapon system during year I. ($/system)

NN(G) = Number of weapon systems introduced into inventory during year G. (systems/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

G = Designator for a specific project year.

3.83 Replenishment Support Equipment Cost

Definition:

The cost of replenishing common servicing equipment, maintenance and repair shop equipment, instruments and laboratory test equipment, and other equipment including spares for these equipments. Covers such items as generators; jet engine stands; test sets for radios, radars and fire control systems; hand tools; compressors; gauges and other minor items. These equipment demands are generated by a need to: (1) replace peculiar support equipment bought using procurement funds; (2) obtain common off-the-shelf equipment that is needed to support operations; and (3) replenish support equipment that is no longer useable.

Cost Formula:

$$RSE = \sum_{I=1}^{Y} RSEC(I)$$

where:

RSE = Replenishment support equipment cost. ($)

RSEC(I) = Government expenditures during year I for replenishment support equipment. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

3.84 Expendable Stores Cost

Definition:

The cost of the expendable ordnance, ammunition, pyrctechnics, missiles, ballistic weapons, guided weapons, torpedoes, mines, depth charges and sonobuoys used in training exercises.

Cost Formula:

$$EXS = \sum_{I=1}^{Y} NNN(I) * EXSC(I)$$

where:

$$NNN(I) = \sum_{G=1}^{I} NN(G)$$

for which:

EXS = Expendable stores cost. ($)

NNN(I) = Total number of weapon systems procured through year I. (systems)

EXSC(I) = Stores cost per weapon system during year I. ($/system)

NN(G) = Number of weapon systems introduced into inventory during year G. (systems/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

G = Designator for a specific project year.

4. Associated Systems Costs

Definition:

Ship systems only: The procurement and operating and support costs of additional hardware needed to insure effective operational use of the new ship. These additional hardware needs can range from new logistics support force ships to helicopters which will be deployed on the new ship.

Cost Formula:

ASC = ASCI + ASCO

where:

ASC = Associated systems costs. ($)

ASCI = Associated systems investment costs. ($)

ASCO = Associated systems operating and support costs. ($)

4.1 Associated Systems Investment Costs

Definition:

This cost refers to all costs associated with the procurement of additional hardware needed to insure effective operational use of the new ship.

Cost Formula:

$$ASCI = MLI + TRI + AII$$

where:

ASCI = Associated systems investment costs. ($)

MLI = Mobile Logistics Support Force investment cost. ($)

TRI = Tenders and repair ships investment cost. ($)

AII = Ashore Intermediate Maintenance Activity (IMA) investment cost. ($)

4.11 Mobile Logistics Support Force Investment Cost

Definition:

The cost of constructing, converting, altering, or modifying oilers, ammunition ships, supply ships, etc., to support the operation of these particular ships.

Cost Formula:

$$MLI = \sum_{I=1}^{Y} MLIC(I)$$

where:

MLI = Mobile Logistics Support Force (MLSF) investment cost. ($)

MLIC(I) = Government expenditures during year I for constructing, converting, altering, or modifying the MLSF. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

4.12 Tenders and Repair Ships Investment Cost

Definition:

The cost of constructing, converting, altering, or modifying tenders and repair ships for the intermediate maintenance of these particular ships.

Cost Formula:

$$TRI = \sum_{I=1}^{Y} TRIC(I)$$

where:

TRI = Tenders and repair ships investment cost. ($)

TRIC(I) = Government expenditures during year I for constructing, converting, altering, or modifying tenders and repair ships. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

4.13 Ashore Intermediate Maintenance Activity Investment Cost

Definition:

The cost of constructing, converting, altering, or modifying of shore facilities to provide intermediate maintenance for these particular ships. Investments made solely for repairable component repair facilities, which should be reflected in 2.27 are excluded.

Cost Formula:

$$AII = \sum_{I=1}^{Y} AIIC(I)$$

where:

AII = Ashore Intermediate Maintenance Activity investment cost. ($)

AIIC(I) = Government expenditures during year I for constructing, converting, altering, or modifying shore facilities. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

4.2 Associated Systems Operating and Support Costs

Definition:

This cost refers to all costs associated with the operating and support of additional hardware needed to insure effective operational use of the new ship.

Cost Formula:

$$ASCO = MLO + TRO + AIO + ES$$

where:

ASCO = Associated systems operating and support costs. ($)

MLO = MLSF operating and support cost. ($)

TRO = Tenders and repair ships operating and support costs. ($)

AIO = Ashore IMA operating and support cost. ($)

ES = Embarked systems operating and support cost. ($)

4.21 Mobile Logistics Support Force Operating and Support Cost

Definition:

The significant incremental costs of operating and supporting the MLSF (except tenders and repair ships) that result from the introduction and operation of these particular ships. The operating and support cost of the MLSF ship is to include the cost categories in the 300 series defined by this report.

Cost Formula:

$$MLO = \sum_{I=1}^{Y} MLOC(I)$$

where:

MLO = MLSF operating and support cost. ($)

MLOC(I) = Incremental costs during year I for operating and support of the MLSF. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

4.22 Tenders and Repair Ships Operating and Support Cost

Definition:

The significant incremental costs of operating and supporting the tenders and repair ships that result from the introduction and operation of these particular ships. The O&S cost of the tenders and repair ships is to include the cost categories, (except for direct labor, covered in 3.211) in the 300 series defined by this report. If these particular ships require particular tenders or repair ships, the costs associated with them must be shown separately.

Cost Formula:

$$TRO = \sum_{I=1}^{Y} TROC(I)$$

where:

TRO = Tenders and repair ships operating and support cost. ($)

TROC(I) = Incremental costs during year I for operating and support of the tenders and repair ships. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

4.23 Ashore IMA Operating and Support Cost

Definition:

The significant incremental costs of operating and supporting the ashore IMAs that result from the introduction and operation of these particular ships. The O&S cost of the ashore IMAs includes manpower, (except for direct labor, covered in 3.221), training, personnel support, and other support as defined by the 300 series of this report. These costs also include support services received from host facilities. If these particular ships require particular IMAs, the costs associated with them must be shown separately.

Cost Formula:

$$AIO = \sum_{I=1}^{Y} AIOC(I)$$

where:

AIO = Ashore IMA operating and support cost. ($)

AIOC(I) = Incremental costs during year I for operating and support of ashore IMAs. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

4.24 Embarked Systems Cost

Definition:

Pro rata share of the operation and support costs of embarked systems, such as helicopters, etc., not intended to be permanently affixed to the ship. The pro rata allocation of aviation systems is to be based on a proportionate share of the total squadron operating and support costs as defined by the cost categories in this report. Costs will be shown separately for each kind of "embarked system." The "embarked systems" will be specifically identified.

Cost Formula:

$$ES = \sum_{I=1}^{Y} ESC(I)$$

where:

ES = Embarked systems cost. ($)

ESC(I) = Pro rata share of operating and support costs of embarked systems during year I. ($/yr)

I = Designator for a specific project year.

Y = Number of years in life cycle. (yrs)

5. Termination Cost

Defintion:

This element refers to the salvage value and/or disposal cost incurred when the weapon system is removed at the end of its economic life.

Cost Formula:

$$TERV = \sum_{I=1}^{Y} NPO(I) * TERM$$

where:

TERV = Termination cost. ($)

NPO(I) = Number of major weapon systems phased out during year I. (systems/yr)

TERM = Major system terminal cost/value. (+/-$/system)

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IV. Guidelines

A. Introduction

This section presents situations for tailoring the CBS and cost methodology. The material presented is for guidance - it should in no way limit the use of imagination and good judgement in performing cost analyses relevant to acquisition program decisions.

B. Tailoring The Analysis

The conducting of a life cycle cost analysis must be tailored to the phase of the acquisition program and the cost issues involved. As a program progresses, the issues change, and both the uncertainties in the cost estimation and the opportunities to affect those costs diminish. Consequently, the nature of decisions and the related cost analyses will change as the design progresses.

Depending on the phase of the program and the specific issues involved, the cost analysis might address alternative weapon systems, subsystems, or support plans. Additionally interest will frequently focus on the sensitivity of certain costs to the goals established for mission performance and support of the weapon system.

C. Objectives Of The Cost Analysis

Although each cost analysis and its format must be tailored to the decisions at hand, it should always:

- Define each alternative
- Identify differences between alternatives
- Show cost impact of the differences, taking uncertainty into account

- Explain the rationale of the cost analysis (assumptions, limitation, methods, data) and note any deviations from the guidelines set forth by the requesting activity for the cost analysis

- Relate the results to the decisions being considered

D. Illustrations For Altering The CBS And Cost Equations

This sub-section presents examples where the CBS and cost equations presented earlier are altered to address the issues under consideration during the cost analysis. The illustrations are hypothetical, through based on real world issues. They are descriptive rather than prescriptive.

Example 1. Assume that it is desired to compare the life cycle cost of two proposed weapon systems in similiar stages of development.

In this example, it is important that the cost-estimating model, where feasible, be the same for the two systems. This is to ensure that differences between cost estimates of the systems result from differences inherent in the systems, and not from differences in the cost-estimating approaches.

The depth of detail of the CBS used in the cost-estimating model is dependent on the stage of development of the weapon systems. Comparing two systems in the conceptual stage, may require the cost coverage of Research and Developmemt costs suggested in this report; whereas, the Operating and Support costs may be estimated on a more aggregate level than that presented.

Cost-estimating techniques also vary as the stage of development progresses. During the early stages of development, it may be desireable to estimate costs based on historical cost trends of similiar or analogous systems. These estimates may be made at the system-level. As the system design matures, the estimating techniques become more related to the weapon systems characterics and operating scenario. Cost estimates may be made at the subsystem or component level.

Example 2. Purpose of analysis: Compare the cost of modifying an existing weapon system to that of developing and acquiring a proposed new weapon system.

This example would require two different cost-estimating models. The cost-estimating model for the modified weapon system would focus on research and development, and investment costs for the proposed modifications. Operating and support costs would be considered for the entire system with the proposed modifications. Previous expenditures for developing, acquiring, and supporting the weapon system would not be considered.

Historical data would be the predominate basis for cost estimates of the operating an support costs for the portion of the weapon system not undergoing modification.

The proposed new weapon system would require a cost-estimating model that considers the costs of developing, acquiring, and supporting the entire weapon system. As in the previous example, the CBS and cost-estimating technique used would depend on the systems stage of development.

Example 3. Purpose of analysis: Trade-off two different component designs.

Here again, it is desirable that the cost-estimating model be the same for the two alternative components. The model should involve only a small portion of the total weapon system's cost, focussing on the selected components trade-offs. Detailed analysis considering acquisition cost versus maintenance cost as a function of reliability should be a characteric of the model used.

Example 4. Purpose of analyses: Trade-off two different support concepts.

Again, it would be desirable to use one cost-estimating model for the two different support policies. The model would focus on the cost differences of the support concepts concentrating on the cost of maintaining the system, subsystem(s), or component(s) being considered for alternative support concepts.

V. LCC FLEX Computer Program

A. Introduction

This section discusses the LCC FLEX computer model. The model is an updated version of the models previously developed for major weapon system and equipment level life cycle cost analysis. This updated version allows the user to store on a computer file, rather than program into the model, the standard CBS and associated equations. This feature allows the user to permanently change the CBS or equations without changing the computer program.

B. Standard CBS and Equations

The Life Cycle Cost Breakdown Structure and Equation Directory which identifies the CBS number assigned to each element; and the cost category, funding type, and inflation factor type assigned to each basic equation is provided in Table 4 .

Every cost element in the CBS is assigned a CBS number. The numbering scheme determines the hierarchy from which lower cost elements are aggregated into higher cost elements. The FLEX model is constructed to accept six digit CBS numbers, with the hierarchy determined from left to right. Thus cost elements 110000 and 120000 are aggregated into cost element 100000.

Every cost element without lower cost elements below it, must be defined by a cost equation. Every cost equation is assigned to one of ten major cost categories. For reference purposes, each is assigned a numerical code. These Cost Categories and their assigned code numbers in the Equation Directory are:

Contracted Research	1
Management	2
Testing	3
Prime Equipment	4
Training	5
Supply Support	6
Technical Data	7
Support Equipment	8
Operation	9
Maintenance	10

TABLE 4
COST BREAKDOWN STRUCTURE
AND
EQUATION DIRECTORY

CBS NO		COST CAT.	FUND TYPE	INFL. TYPE
100000	RESEARCH AND DEVELOPMENT			
110000	VALIDATION			
111000	CONTRACTOR	1	1	1
112000	GOVERNMENT	2	1	1
120000	FULL SCALE DEVELOPMENT			
121000	CONTRACTOR			
121100	PROGRAM MANAGEMENT	1	1	1
121200	ENGINEERING	1	1	1
121300	PROTOTYPE HARDWARE	1	1	1
121400	SOFTWARE	1	1	1
121500	INTEGRATION AND TEST	1	1	1
121600	DOCUMENTATION	1	1	1
122000	GOVERNMENT			
122100	PROJECT MANAGEMENT	2	1	1
122200	SYSTEMS ENGINEERING	2	1	1
122300	SYSTEM TEST AND EVALUATION			
122310	TEST PERSONNEL AND TRAINING	3	1	1
122320	TEST SPARES	3	1	1
122330	TEST/AGE/GSE/TE	3	1	1
122340	TEST FACILITIES	3	1	1
122400	FOREIGN MILITARY SALES	2	6	4
200000	INVESTMENT			
210000	ACQUISITION (CONTRACTOR)			
211000	PRODUCTION HARDWARE	4	2	2
212000	PECULIAR SUPPORT EQUIPMENT	8	2	2
213000	TRAINING	5	2	2
214000	INTEGRATION AND TEST	4	2	2
215000	PROGRAM MANAGEMENT	2	2	2
216000	DOCUMENTATION	7	2	2
217000	TECHNICAL SUPPORT	4	2	2
218000	INDUSTRIAL FACILITIES	4	2	2
219000	INITIAL SPARES AND REPAIR PARTS	6	2	2
220000	GOVERNMENT			
221000	GFE (GFP)	4	2	2
222000	COMMON SUPPORT EQUIPMENT	8	4	4
223000	TRAINING	5	3	3
224000	SYSTEM TEST AND EVALUATION	3	2	2
225000	PROJECT MANAGEMENT	2	2	2
226000	DOCUMENTATION	7	2	2
227000	SITE ACTIVATION			
227100	OPERATIONAL SITES	4	3	3
227200	MAINTENANCE FACILITIES	4	3	3
228000	SUPPLY INTRODUCTION	6	4	4
229000	TRANSPORTATION	4	2	2
300000	OPERATING AND SUPPORT			
310000	OPERATING			
311000	CREW	9	5	4
312000	STAFF	9	5	4
313000	MATERIAL	9	4	4
314000	SECURITY	9	5	4
315000	OTHER DEPLOYED MANPOWER	9	5	4
316000	PERSONNEL SUPPORT	9	4	4

CBS NO		COST CAT.	FUND TYPE	INFL. TYPE
320000	O/I MAINTENANCE ACTIVITY			
321000	AFLOAT FACILITIES			
321100	LABOR			
321110	WEAPON SYSTEM MAINTENANCE	10	4	4
321120	ORDNANCE MAINTENANCE	10	4	4
321200	MATERIAL	10	4	4
321300	PERSONNEL SUPPORT	10	4	4
321400	SITE MAINTENANCE	10	3	3
322000	ASHORE FACILITIES			
322100	LABOR			
322110	WEAPON SYSTEM MAINTENANCE	10	4	4
322120	ORDNANCE MAINTENANCE	10	4	4
322200	MATERIAL	10	4	4
322300	PERSONNEL SUPPORT	10	4	4
322400	SITE MAINTENANCE	10	3	3
330000	INSTALLATION SUPPORT			
331000	BASE OPERATING SUPPORT	10	3	3
332000	REAL PROPERTY MAINTENANCE	10	3	3
333000	PERSONNEL SUPPORT	10	3	3
340000	DEPOT MAINTENANCE			
341000	SCHEDULED MAINTENANCE	10	4	4
342000	UNSCHEDULED MAINTENANCE	10	4	4
343000	MODERNIZATION	10	4	4
344000	COMPONENT REPAIR	10	4	4
350000	DEPOT SUPPLY			
351000	MATERIAL MANAGEMENT	7	4	4
352000	TECHNICAL SUPPORT	10	4	4
360000	SECOND DESTINATION TRANSPORTATION			
361000	SCHEDULED	10	4	4
362000	UNSCHEDULED	10	4	4
370000	PERSONNEL SUPPORT AND TRAINING			
371000	INDIVIDUAL TRAINING	5	2	2
372000	HEALTH CARE	9	4	4
373000	PERSONNEL ACTIVITIES	9	5	4
374000	PERSONNEL SUPPORT	9	4	4
380000	SUSTAINING INVESTMENTS			
381000	REPLENISHMENT SPARES	6	2	2
382000	MODIFICATIONS	6	2	2
383000	REPLENISHMENT SUPPORT EQUIPMENT	8	2	2
384000	EXPENDABLE STORES	9	2	2
400000	ASSOCIATED SYSTEMS			
410000	INVESTMENT			
411000	MOBILE LOGISTICS SUPPORT FORCE	10	2	2
412000	TENDERS AND REPAIR SHIPS	10	2	2
413000	ASHORE IMA	10	3	3
420000	OPERATING AND SUPPORT			
421000	MOBILE LOGISTICS SUPPORT FORCE	9	4	4
422000	TENDERS AND REPAIR SHIPS	9	4	4
423000	ASHORE IMA	9	4	4
424000	EMBARKED SYSTEMS	9	4	4
500000	TERMINATION	10	6	4

Every cost equation is assigned to one of six funding types. These funding types and their code numbers in the Equation Directory are:

Research & Development	1
Procurement	2
Construction	3
Operation & Maintenance	4
Military Personnel	5
Others	6

Each cost equation in the Equipment Life Cycle Cost model can be adjusted for the time value of money by one of four types of inflation factors and one discount factor. These inflation factors and their code numbers in the Equation Directory are:

R&D	1
Procurement	2
Construction	3
O&M	4

Operation and Maintenance and Military Personnel are assumed to use the *same O&M type of inflation factor*. Funding type "Others" could use any one of the inflation factors.

C. Data Collection

Life Cylce Cost analysis requires the collection and processing of 109 cost factors. The principal data sources are the System Project Office, the Contractor, and the Logistic Support organization. The Project Management Office will provide data concerning the system operations, acquisition costs, project schedules and various contractual related information. Information pertaining to the inherent design characteristics of the system will be available from the contractor. The ILS Manager and his Logistic Element Managers will have access to data on maintenance, personnel and training, technical data, transportation, etc., during the ownership period. The analyst will be required to provide all other cost factors by converting

some of the raw data collected during the interviews into applicable information. It is recommended that the cost equations' description presented in section III be used as a guide during the interviews.

The basic steps in the data collection and processing are the same whether life cycle costs are calculated manually or by using the Automatic Data Processing (ADP) program. The ADP method simplifies the calculation requirements, but it also requires an analyst to become familiar with translating LCC factors into a format acceptable to a computer.

Sections D and E will provide information on how to use the ADP techniques for the LCC model. Section G will present the FLEX technique on how to modify the FLEX LCC Model.

D. Automatic Data Processing

Although an analyst can use the model without knowing all the details of the calculations, a general knowledge of the logical content contained in the model is useful in properly developing input data, in properly interpreting results and in appreciating the capabilities and limitations of the model.

The LCC model consists of three functional processes:

1. ADP Model Input Logic

Like any computer model, a problem to be analyzed by the LCC model must be presented in the form of input data of particular types. Once the analyst has prepared data on the input forms, the data is converted to punched cards. Each type of data card is read in and the data is converted to a form needed for subsequent operations. The model routines that process input data also apply various logical tests to verify that the data is correct and complete within certain limits. If these tests or edit checks uncover discrepancies in the data, error messages are produced. For some errors operation of the model will stop, while for others processing will continue.

The input routings also provide reports of the input data which are returned to the analyst along with results of the output reports. These input reports can be used to check that the data has been properly entered. They also serve as ready reference for interpreting the results of the model. Once all input data is read in and established in arrays, the logical process of the model automatically begins. All of the processing is done internally and does not require the attention or intervention of the analyst.

2. Cost Calculations

In calculating Life Cycle Cost, the model considers the hierarchal structure of the cost elements that have been defined in section II. The cost of a cost element is the sum of the indentured cost elements below it. For example: total life cycle cost is calculated as the sum of the Research and Development, Investment, Operating and Support, Associated Systems, and Termination costs. This feature requires that only those cost elements that do not have lower indentured cost elements need be described by equations. The model calculates the cost of each equation by year. These costs are then adjusted as required by the time value of money theory.

Every cost element described by an equation also has identified with it a life cycle phase, cost category, funding type, and adjustment factor.

3. Reports

The purpose of a life cycle methodology is to take the diverse bits of information describing a specific bid or set of circumstances and produce a unique value called the total life cycle cost. The comparison of the LCC values provides the System Project Manager with an important decision-making factor. The ADP program provides various reports at different depth of detail and types of information that are grouped into two basic categories.

(3) The COST BREAKDOWN BY YEAR report presents the yearly breakdown of the basic cost elements.

(4) The COST BREAKDOWN TOTALS report presents the total life cycle cost of each basic cost element. The cost of each basic cost element is also expressed as a percentage of total LCC.

(5) The GENERAL FUNDING report presents the total life cycle cost cross-referenced by funding types.

(6) The ANNUAL COST BY FUNDING TYPE report presents the total life cycle cost by year by funding type.

(7) The ANNUAL COST BY COST CATEGORY report presents the total life cycle cost by year by cost category.

(8) The SENSITIVITY ANALYSIS report summarizes the effect of varying a single cost factor's value on the total life cycle cost.

E. LCC Model Input Formats

The operation of the Equipment Life Cycle Cost model requires that a variety of input data be prepared by the analyst to describe the equipment being analyzed. A Run Deck sequence of the computer cards is shown in figure 1. A Major Weapon System LCC model sample computer run is provided in Appendix B. There are five types of input formats required from the analyst. These are:

1. Analysis Identification

This form identifies the analysis and prints the title on the cover page and on the succeeding report pages. The maximum number of characters for the analysis identification is 100. The identification is to be contained in columns 1 through 80 of the first card and columns 1 through 20 of the second card (if required). All characters will appear as the analysis identification on each report page; if no information is given then "No analysis identification was provided" will be printed.

LCCFLEX RUN DECK SEQUENCE

```
//NWQPxxxx JOB (13440dii,C,U,N),'LCC-Analyst's name)
// EXEC LCCFLEX,RUN=1,LINES=5000
//IDENT DD *

:  Identification cards go in here                                    :

//CS DD *

:  CS and EQ cards go in here                                         :
:  Referred to as CS FILE and used only for FLEX option               :

//NV DD *

:  NV and DS cards go in here                                         :
:  Referred to as NV FILE and used only for FLEX option               :

//DATA DD *

:  CN card                                                            :
:                                                                     :
:  RM cards                                                           :
:                                                                     :
:   &INPUT                                                            :
:                                                                     :
:   NAMELIST input data cards go in here                              :
:                                                                     :
:   &END                                                              :
:                                                                     :
:  SA Sensitivity analysis cards go in here                           :

//
//
```

xxxx Project identification
d department code
ii Analyst's initials

FIGURE 1

2. Control Options Card (CN card)

The control options card (CN card) has several switches to suppress printing of reports.

Input Data Reports are selectively printed or not printed in accordance with the following code:

0 or blank = No report printed
1 = Report printed

Output Reports are selectively printed or not printed in accordance with the following code:

0 or blank = No report printed
1 = Report printed in constant dollars
2 = Report printed in inflated dollars
4 = Report printed in inflated and discounted dollars

If more than one type of printout is desired, simply add the integer of the individual reports and enter the resultant number. For example, the number 3 (1+2) will produce two reports, one in constant dollars and the other in inflated dollars. An entry of 7 (1+2+4) will produce three reports, one in constant dollars, one in inflated dollars, and one in inflated and discounted dollars.

The last switch on the form provides the user with an option of entering the adjustment factor for the inflation in the form of either the inflation rate or the inflation factor. The switch is controlled as follows:

0 or blank = Inflation rates
1 = Inflation factors

If there is no CN card all of the reports will be printed.

The format of the CN card is as follows:

Column(s)	Description
1-2	Card type "CN"
3	Equation
4	Remarks
5	Dictionary
6	Built-in variable values
7	User input variable values (Used only for LCCFLEX)
8	Cost adjustment factors
9	Summary
10	Funding by cost category
11	Cost breakdown by year
12	Cost breadkown totals
13	General funding
14	Annual cost by funding
15	Annual cost by cost categories
16	Sensitivity analysis
17-19	Not used
20	Inflation rate/factor input option
21-80	Not used

LCC MODEL CN OUTPUT REPORT SELECTOR

PAGE _____
OF _____

REPORTS

C	N	EQUATIONS REMARKS						INFLATION FACTORS SUMMARY	FUND VS COST CAT.	COST BREAK BY YR.	COST BREAK TOTALS	GENERAL FUNDING	ANNUAL COST BY FUND	ANNUAL COST BY CAT.	SENSITIVITY ANALYSIS				INFLAT RATES OR FACT.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

3. Remark Cards (RM Cards)

The remark cards allow the user to describe or provide additional information for explanatory purposes. The remarks entered in this format are printed on a separate output page. If no remark card is used, "No remarks" is printed. Each remark card should be coded with the characters RM on the first and the second column of the card. The user can include as many RM cards as needed.

4. Input Card (for NAMELIST input)

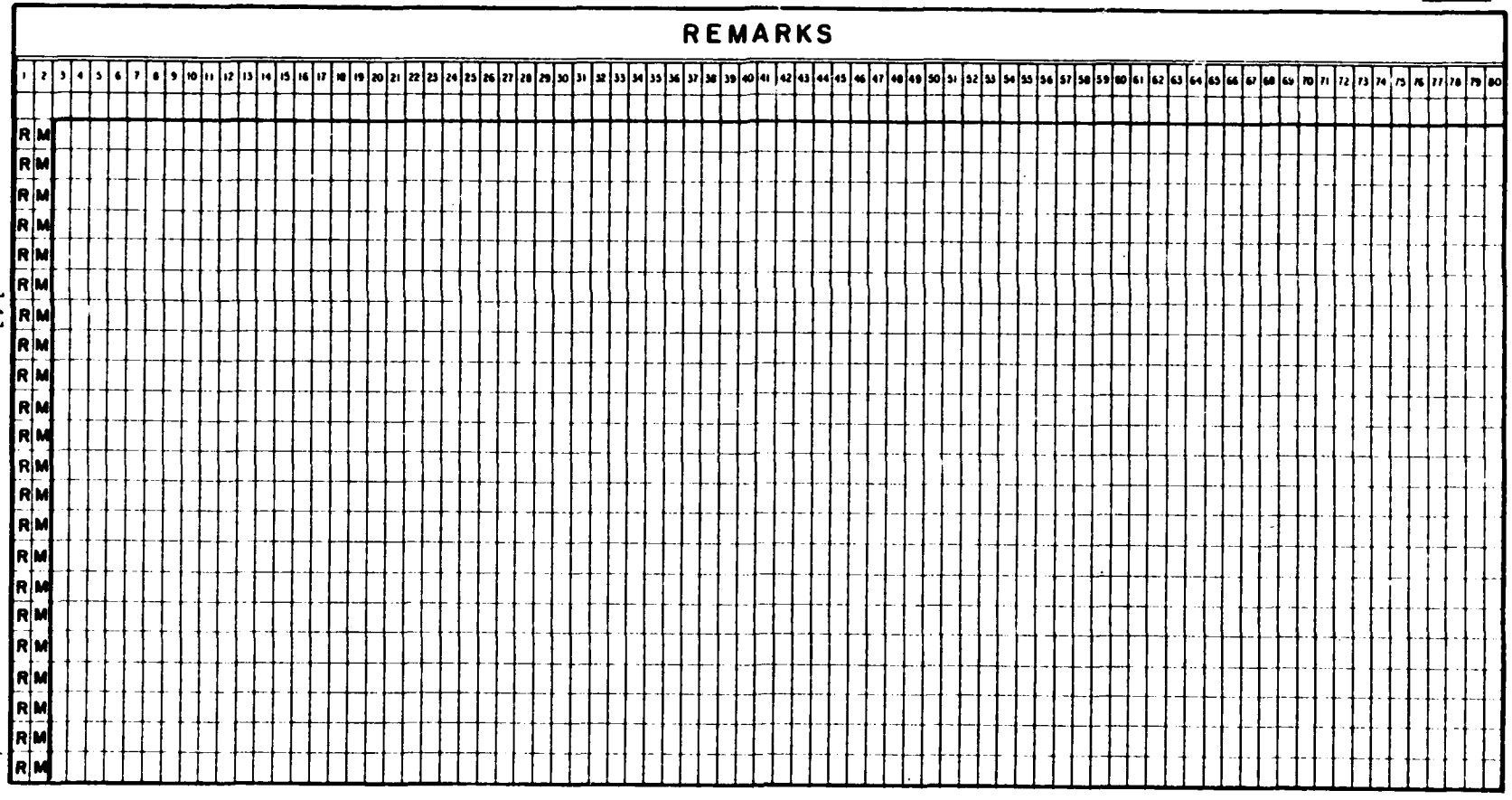
The basic input data is entered on NAMELIST input cards. NAMELIST is a special input processing technique that allows a great deal of freedom and brevity in providing input data to a program.

Certain rules govern the use of the NAMELIST technique; these rules are described here. The first card for NAMELIST input must have "&" in column 2 followed by a NAMELIST name (for this program that name is input) and the name followed by a blank. Subsequent cards do not use this identification but column 1 must be blank. The end of NAMELIST data is signified by entering "&END" after the final model input data. Data is entered in the format "Variable name = Variable value." If the variable is defined as an integer (in this program only dimensioned scalars are integers), the value must be an integer (not contain a decimal point). Embedded blanks in the name or value are illegal, but blanks may appear before or after each (CAUTION: Blanks after a value with no decimal point will be interpreted as zeros). A comma must be used to delimit and separate data entries. Input to arrays (matrices) may be done in one of several ways. Some of these ways are illustrated in the following example.

140 - Blank

LCC MODEL RM REMARKS REPORT

PAGE_____
OF_____



142 Blank

LCC MODEL [&] & INPUT

PAGE ____
OF ____

VARIABLE NAME = VARIABLE VALUE

&INPUT

&END

144 Blank

Assume an array "A" dimensioned as two by three, into which it is desired to enter the values

2 2 8
8 8 8

This can be done, under NAMELIST input by:

```
A(1,1)=2.,A(1,2)=2.,A(1,3)=8.,
A(2,1)=8.,A(2,2)=8.,A(2,3)=8.,
```

or

```
A=2.,2.,8.,8.,8.,8.,
```

or

```
A=2*2.,4*7.,
```

or

```
A(1,1)=2.,A(1,3)=8.,
```

In the last form each of the missing elements will take the immediately preceeding value given, as their default value.

The Major Weapon System Life Cycle Cost model contains 77 cost factors which are written in the NAMELIST format. There are three types of cost factors:

a. Scalars

These are the single value cost factors. There are 19 scalars in the LCC model. All scalars have a range varying from 0 to 10^9 except scalars "BY" and "IFY" which are restricted to vary from 1 to 30, and scalar 'TERM' which varies from -10^9 to 10^9. Scalar names are listed in alphabetical order as follows:

AA	CSPB	CSPS	CTPE	DCRS	FSA
GF	IFI	MATS	NSNP	NSNS	OT
RIE	RIM	RMF	RMFA	SSS	TAD
TERM					

b. Dimensioning Scalars

These are the single value cost factors governing the dimensions of the arrays. There are 9 dimensioning scalars in the LCC Model. Dimensioning scalars and their respective minimum and maximum range values are listed as follows:

Name	Min. range	Max. Range
B	1	5
D	1	30
DD	1	50
F	1	5
FF	1	50
U	1	5
W	1	5
Y	1	30
Z	1	50

c. Arrays

These are the subscripted multiple entry cost factors. Dimensions of these arrays are controlled by dimensioning scalars. All arrays have a range varying from 0 to 10^6 except arrays "MTBF" and "MTGO" are restricted to a minimum of 0.01 to avoid division by zero during calucations. There are 84 arrays in the Major Weapon System LCC model. The listing of the arrays by dimension types are as follows:

(1) The 65 arrays subscripted by "I" and dimensioned by "Y" (which has a range from 1 to 30) are as follows:

AD	ADC	ADG	AIIC	AIOC	APS	APSA
AQSE	ASE	ASEC	BOSC	CIF	CIFF	CPM
CSU	CTE	CTS	DC	DCD	DCE	DCH
DCPM	DCS	DCSE	DCT	DCTE	DCTS	DGPM
DGTA	DCTT	ESC	EXSC	FA	FM	HCC
IPS	MFC	MFCA	MLIC	MLOC	MODC	MDDK
NB	NFMP	NMFS	NNN	NPO	ODM	PACC
PESC	PMG	PSC	PTE	RPMC	RSEC	RTRE
RTRS	SA	SS	TESC	TRE	TRF	TRIC
TROC	TRS					

(2) The 6 arrays subscripted by "CC" and dimensioned by "DD" (which has a range from 1 to 50) are as follows:

ALBR AMAT ATRN BCM GMC MTBS

(3) The 5 arrays subscripted by "X" and dimensioned by "Z" (which has a range from 1 to 50 are as follows:

ALR AMTR ATNS GOH MTGO

(4) The 2 arrays subscripted by "EE" and dimensioned by "FF" (which has a range from 1 to 50) are as follows:

ACST ADSC

(5) The 2 arrays subscripted by "T" and dimensioned by "U" (which has a range from 1 to 5) are as follows:

MS POT

(6) The 1 array subscripted by "A" and dimensioned by "B" (which has a range from 1 to 5) is:

PA

(7) The 1 array subscripted by "E" and dimensioned by "F" (which has a range from 1 to 5) is:

PAS

(8) The 1 array subscripted by "V" and dimensioned by "Z (which has a range from 1 to 50) is:

MSO

(9) The 1 array subscripted by "C" and dimensioned by "D" (which has a range from 1 to 30) is:

CSE

d. Matricies

These are the double subscripted multiple entry cost factors controlled by 2 dimensioning scalars simultaneously. There are 7 matricies in the model. They are as follows:

(1) The 2 matricies subscripted by "I" and "T" and dimensioned by "Y" and "U" are as follows:

NMP NMPA

(2) The 2 matricies subscripted by "I" and "V" and dimensioned by "Y" and "B" are as follows:

NOP NOPA

(3) The matrix subscripted by "I" and "A" and dimensioned by "Y and "B" is:

NCR

(4) The matrix subscripted by "I" and "C" and dimensioned by "Y" and "D" is:

NSE

(5) The matrix subscripted by "I" and "E" and dimensioned by "Y" and "F" is:

NSTA

Table 5 presents an alphabetically sequenced Life Cycle Cost Directory with names and descriptions of the Cost Factors and a cross reference of the Equations in which they are used.

5. Sensitivity Analysis Card

Variables to be sensitized are noted on the sensitivity analysis card. These cards are identified by punching SA in columns 1 and 2.

The mnemonic of the variable to be sensitized is entered in columns 10 through 17. The lower and upper values of the range over which the variable is to be sensitized are entered in columns 20 through 29 and 30 through 39 respectively.

Up to ten scalar variables and up to ten array variables may be sensitized in a given program execution.

TABLE 5
LIFE CYCLE COST FACTOR DIRECTORY

NAME	DESCRIPTION	CBS NO
AA	First piece cost of weapon system. ($)	211000
ACST(EE)	Average cost of item per discard or scrap maintenance action to the EEth equipment. ($/scrap action)	381000
AD(I)	Documentation acquisition cost during year I. ($/yr)	216000
ADC(I)	Contractor payments paid by the Government to contractors for the major weapon system validation effort during year I. ($/yr)	111000
ADG(I)	Government expenditures during year I for the major weapon system validation effort. ($/yr)	112000
ADSC(EE)	Average scrap rate of items in the EEth equipment. (scrap actions/failure)	381000
AIIC(I)	Government expenditures during year I for constructing, converting, altering, or modifying shore facilities. ($/yr)	413000
AIOC(I)	Incremental costs during year I for operating and support of ashore IMAs. ($/yr)	423000
ALBR(CC)	Average two way packaging labor cost incurred during the process of shipping failed items in equipment CC between the intermediate and depot level facilities. ($/BCM)	362000
ALR(X)	Average two way packaging labor cost incurred during the process of shipping rework/overhaul items in equipment X between the intermediate and depot level maintenance facilities. ($/(rework/overhaul))	361000
AMAT(CC)	Average packaging material cost incurred during the process of shipping failed items in equipment CC between the intermediate and depot level facilities. ($/BCM)	362000
AMTR(X)	Average packaging material cost incurred during the process of shipping rework/overhaul items in equipment X between the intermediate and depot level maintenance facilities. ($/rework/overhaul))	361000

TABLE 5 (CONT'D)

LIFE CYCLE COST FACTOR DIRECTORY

NAME	DESCRIPTION	CBS NO
APS(I)	Government expenditures in year I for personnel support at afloat facilities. ($/yr)	321300
APSA(I)	Government expenditures in year I for personnel support at ashore facilities. ($/yr)	322300
AQSE(I)	Government expenditures in year I for the acquisition of common support equipment. ($/yr)	222000
ASE(I)	Government expenditures in year I to make common support equipment available for support of the weapon system. ($/yr)	222000
ASEC(I)	Security cost incurred during year I. ($/yr)	314000
ATNS(X)	Average two way shipping cost incurred during the process of shipping rework/overhaul items in equipment X between the intermediate and depot level maintenance facilities. ($/(rework/overhaul))	361000
ATRN(CC)	Average two way shipping cost incurred during the process of shipping failed items in equipment CC between the intermediate and depot level maintenance facilities. ($/BCM)	362000
BCM(CC)	Beyond capability of maintenance rate of equipment CC. (ratio)	342000 362000
BOSC(I)	Government expenditures during year I for base operating support. ($/yr)	331000
CIF(I)	Government payments to contractors for industrial facilities during year I. ($/yr)	218000
CIT(I)	Contractor payments paid by the Government during year I for integration and test of the complete weapon system. ($/yr)	214000
CPM(I)	Contractor payments paid by the Government during year I for program management of the production units. ($/yr)	215000
CSE(C,	Acquisition cost of support equipment type C. ($/equipment)	212000

TABLE 5 (CONT'D)

LIFE CYCLE COST FACTOR DIRECTORY

NAME	DESCRIPTION	CBS NO
CSPB	Cost of initial spares and repair parts per aircraft supporting base. ($/base)	219000
CSPS	Cost of initial spares and repair parts per ship system. ($/system)	219000
CSU(I)	Government payments to contractors for technical support during year I of the investment phase. ($/yr)	217000
CTE(I)	Cost of contractor training equipment in year I. ($/yr)	213000
CTPE	First destination transportation cost for the weapon system. ($/system)	229000
CTS(I)	Cost of contractor services in year I. ($/yr)	213000
DC(I)	Government expenditures in year I for storing, reproducing, packaging, and shipping technical and managerial data. ($/yr)	226000
DCD(I)	Contractor payments paid by the Government to contractors for documentation during year I for the full scale development effort. ($/yr)	121600
DCE(I)	Contractor payments paid by the Government to contractors for engineering during year I for the full scale development effort. ($/yr)	121200
DCH(I)	Contractor payments paid by the Government to contractors for prototype hardware during year I for the full scale development effort. ($/yr)	121300
DCPM(I)	Contractor payments paid by the Government to contractors for program management during year I for the full scale development effort. ($/yr)	121100
DCRS	Depot labor and material cost per ship per year for component repair. ($/ship/yr)	344000
DCS(I)	Contractor payments paid by the Government to contractors for development of software during year I for the full scale development effort. ($/yr)	121400

TABLE 5 (CONT'D)

LIFE CYCLE COST FACTOR DIRECTORY

NAME	DESCRIPTION	CBS NO
DCSE(I)	Government expenditures during year I for systems engineering for the full scale development effort. ($/yr)	122200
DCT(I)	Government expenditures during year I for AGE/GSE/TE used in support of the Test and Evaluation program during the full scale development phase. ($/yr)	122330
DCTE(I)	Contractor payments paid by the Government to contractors for integrating and testing the weapon system during year I for the full scale development effort. ($/yr)	121500
DCTS(I)	Government expenditures during year I for test spares for the full scale development effort. ($/yr)	122320
DGPM(I)	Government expenditures during year I for project management for the full scale development effort. ($/yr)	122100
DGTA(I)	Government costs for test site activation/deactivation during full scale development Test and Evaluation program in year I. ($/yr)	122340
DGTT(I)	Government expenditures during year I for test personnel and training cost for the full scale development effort. ($/yr)	122310
ESC(I)	Pro rata share of operating and support costs of embarked systems during year I. ($/yr)	424000
EXSC(I)	Stores cost per weapon system during year I. ($/system)	384000
FA(I)	Government expenditures in year I for maintenance facility activation. ($/yr)	227200
FM(I)	Moneys received by the Government from the foreign military sales of previously developed weapon systems, to defray the R & D cost of the major weapon system. ($/yr)	122400
FSA	Field supply administration cost of the NSN. ($/NSN/site/yr)	351000

TABLE 5 (CONT'D)

LIFE CYCLE COST FACTOR DIRECTORY

NAME	DESCRIPTION	CBS NO
GF	Cost of GFE/GFM per weapon system. ($/system)	221000
GOH(X)	Depot rework/overhaul cost for equipment X. ($/(rework/overhaul))	341000
GMC(CC)	Depot repair material and labor cost for equipment CC. ($/failure)	342000
HCC(I)	Government expenditures in year I for health care. ($/yr)	372000
IPS(I)	Government expenditures during year I for installation personnel support. ($/yr)	333000
MATS	Materiel cost per system per year. ($/system)	313000
MFC(I)	Government expenditures during year I for maintenance of the afloat facilities. ($/yr)	321400
MFCA(I)	Government expenditures during year I for maintenance of the afloat facilities. ($/yr)	322400
MLIC(I)	Government expenditures during year I for constucting, converting, altering, or modifying the MLSF. ($/yr)	411000
MLOC(I)	Incremental costs during year I for operating and support of the MLSF. ($/yr)	421000
MODC(I)	Moderization cost per weapon system during year I. ($/system)	343000
MODK(I)	Modification cost per weapon system during year I. ($/system)	382000
MS(T)	Unit pay and allowances of grade T personnel. ($/man)	321110 322110
MSO(V)	Unit pay and allowances of grade V personnel. ($/man)	321120 322120
MTBF(CC)	Mean time between failures of the CCth equipment. (hrs/failures)	342000 362000

TABLE 5 (CONT'D)

LIFE CYCLE COST FACTOR DIRECTORY

NAME	DESCRIPTION	CBS NO
MTGO(X)	Mean time between depot rework/overhaul of the Xth equipment. (hrs/(rework/overhaul))	341000 361000 381000
NB(I)	Number of newly introduced bases supporting aircraft during year I. (bases)	219000
NCR(I,A)	Total number of crew personnel of grade A in year I. (men)	311000
NFMP(I)	Number of maintenance facilities servicing the major weapon system in year I. (sites)	351000
NMFS(I)	Number of maintenance facilities servicing support systems of the major weapons system in year I. (sites)	351000
NMP(I,T)	Number of personnel of grade T at afloat facilities maintaining the weapon system during year I. (men/grade/yr)	321110
NMPA(I,T)	Number of personnel of grade T at ashore facilities maintaining the weapon system during year I. (men/grade/yr)	322110
NN(I)	Number of weapon systems introduced into inventory during year I. (system/yr)	221000
NNN(I)	Number of weapon systems in inventory during year I. (systems)	211000 219000 221000 229000 313000 321200 322200 341000 342000 343000 344000 361000 362000 381000 382000 384000
NOP(I,V)	Number of personnel of grade V at afloat facilities maintaining ordnance systems during year I. (men/grade/yr)	321120

TABLE 5 (CONT'D)

LIFE CYCLE COST FACTOR DIRECTORY

NAME	DESCRIPTION	CBS NO
NOPA(I,V)	Number of personnel of grade V at ashore facilities maintaining ordnance systems during year I. (men/grade/yr)	322120
NPO(I)	Number of weapon systems phased out during year I. (systems/yr)	500000
NSE(I,C)	Total population of support equipments of type C during year I. (equipments/yr)	212000
NSNP	Number of new NSNs introduced into supply system by the major weapon system. (NSNs)	228000 351000
NSNS	Number of new NSNs introduced into supply system by support systems of the major weapon system. (NSNs)	228000 351000
NSTA(I,E)	Total number of command staff personnel of grade E in year I. (men)	312000
ODM(I)	Government expenditures in year I for other deployed manpower. ($/yr)	315000
OT	Annual operating time of the weapon system. (hrs/system/yr)	341000 342000 361000 362000 381000
PA(A)	Annual pay and allowances per man of grade A. ($/man)	311000
PACC(I)	Government expenditures during year I for personnel activities. ($/yr)	373000
PAS(E)	Annual pay and allowances per man of grade E. ($/man)	312000
PESC(I)	Government expenditures during year I for personnel support. ($/yr)	374000
PMG(I)	Government project management cost incurred during year I. ($/yr)	225000
POT(T)	Proportion of time personnel of grade T are dedicated to weapon system. (ratio)	321110 322110

TABLE 5 (CONT'D)

LIFE CYCLE COST FACTOR DIRECTORY

NAME	DESCRIPTION	CBS NO
PSC(I)	Government expenditures during year I for personnel support. ($/yr)	316000
PTE(I)	Test and Evaluation costs incurred during year I.($/year)	224000
RIE	Average NSN entry cost into the supply system. ($/NSN)	228000
RIM	Average NSN retention cost in the supply system. ($/NSN/yr)	351000
RMF	Repair material cost at afloat facility per system per year. ($/system)	321200
RMFA	Repair material cost at ashore facility per system per year. ($/system)	322200
RPMC(I)	Government expenditures during year I for real property maintenance. ($/yr)	332000
RSEC(I)	Government expenditures during year I for replenishment support equipment. ($/yr)	383000
RTRE(I)	Government expenditures in year I for replacement training equipment. ($/yr)	371000
RTRS(I)	Government expenditures in year I for training services for personnel replacing those lost through attrition. ($/yr)	371000
SA(I)	Government expenditures in year I for operational site activation. ($/yr)	227100
SS(I)	Cost of system stock for year I. ($)	219000
SSS	Slope of learning curve. (ratio)	211000
TAD	Annual temporary assignment of duty cost per member of crew. ($/man)	311000
TERM	Major weapon system terminal cost/value. (+/-$/system)	500000

TABLE 5 (CONT'D)

LIFE CYCLE COST FACTOR DIRECTORY

NAME	DESCRIPTION	CBS NO
TESC(I)	Government expenditures for technical support during year I. ($/yr)	3252000
TRE(I)	Government expenditures in year I for training equipment. ($/yr)	223000
TRF(I)	Government expenditures in year I for training facilities. ($/yr)	223000
TRIC(I)	Government expenditures during year I for constructing, converting, altering, or modifying tenders and repair ships. ($/yr)	412000
TROC(I)	Incremental costs during year I for operating and support of the tender and repair ships. ($/yr)	422000
TRS(I)	Government expenditures in year I for training services. ($/yr)	223000

The sensitivity analysis for a scalar begins by setting the variable to the lower range value, performing the model calculations, and printing a line of output. The process is repeated ten times successively adding 1/10 of the range to the variable's value.

The sensitivity analysis for an array variable begins by multiplying all original elements of the array by a multiplier initially set equal to the lower range value, performing the model calculations, and printing a line of output. The process is repeated ten times successively adding 1/10 of the range to the multiplier. Array elements are subsequently printed giving the original and eleven modified values of each element.

If more than ten scalars or ten arrays are used for sensitivity analysis, the excess will be ignored and a warning message issued for each.

F. Output Formats

In this section each of the eight output reports will be described followed by an example output report.

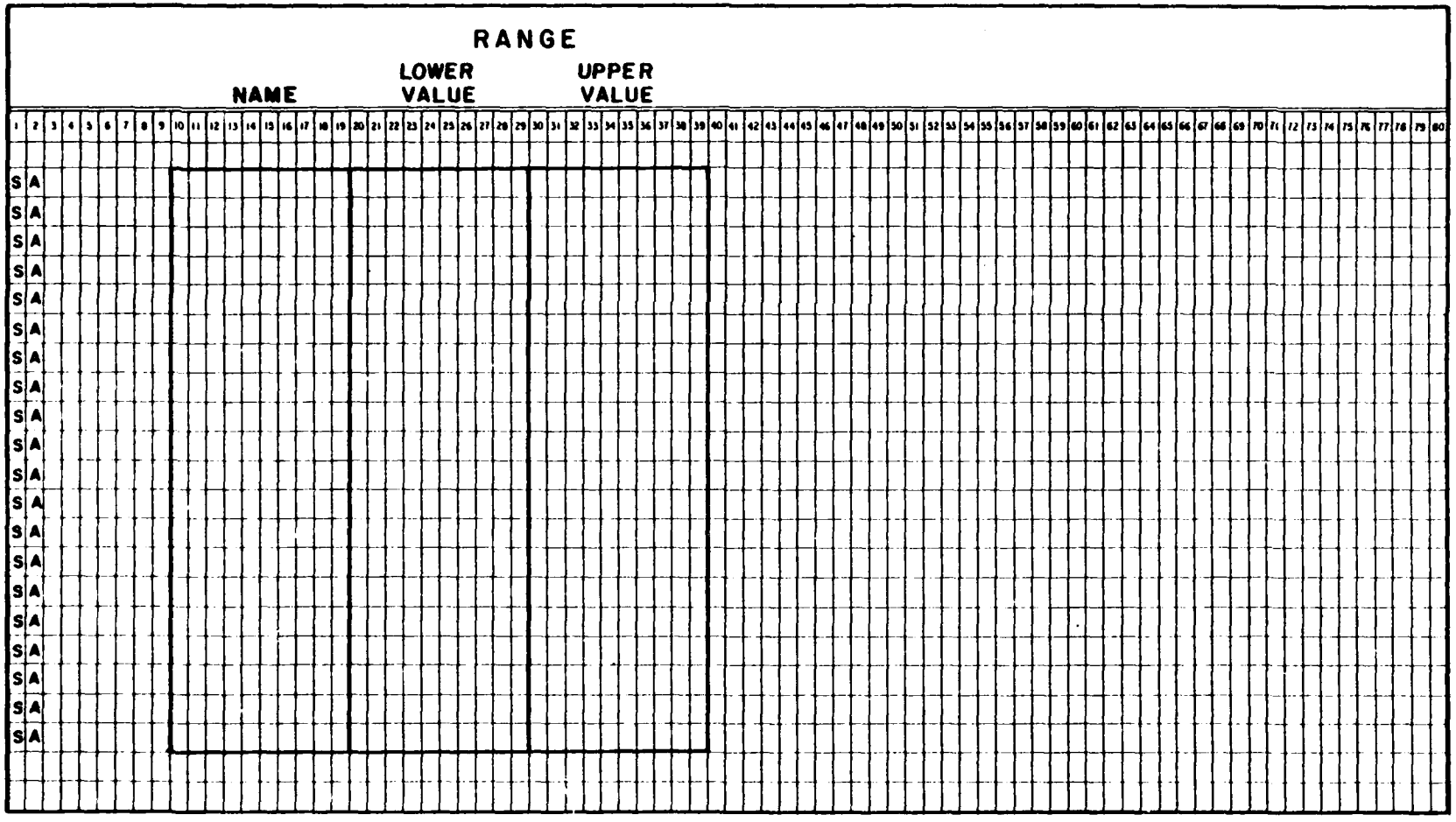
1. Summary Report

In this report, the total life cycle cost is broken down into the ten cost categories and three life cycle phases. Within each cost category as identified by life cycle phase is given: cost-percent of total category cost, and percent of total life cycle cost.

On the left side of the report, the ten cost categories are listed by name; and within each category are given the headings: % of Cost Category Total, and % of Cost Element Total. The ten cost categories are followed by a total line of the cost of the life cycle phase and its contribution of total life cycle cost. Across the top of the report, the cycle phases (labeled as Cost Elements) are identified ending with a Cost Category Total heading. The entire report is contained on one page.

LCC MODEL [SA] SENSITIVITY ANAYLSIS DATA

PAGE _____
OF _____



Leo Blank

2. Funding vs Cost Category Report

This report breaks out the total life cycle cost into the ten cost categories and six funding types. The format of the report is similar to the Summary Report. Within each cost category, costs for each funding type are given. In addition to the cost for the funding type, its contribution to total cost of the cost category is given as a percent. Additionally, within each funding type, the contribution of the cost to the total cost of the funding type is given as a percent. On the left side of the report, the ten cost categories are listed by name; and within each category are given the headings: % of Cost Category Total, and % of Funding Type Total. The ten cost categories are followed by a total line of the cost of the funding type and its contributions to the total life cycle cost. Across the top of the report, the funding types are identified, ending with a Cost Category Total heading. This report is contained on one page.

3. Cost Breakdown by Year Report

In this report, annual costs are given for each element contained in the cost breakdown structure. The report is organized with the cost breakdown structure numbers and elements listed down the left-hand side by order of their hierarchical structure. Up to forty-six lines may be identified on one page. This format is repeated with forty-six line items per page until the cost breakdown structure is completed. The years of the life cycle are identified by column headings across the top of the report, organized into groups of five. This format is successively repeated for as many years as are given. The number of pages for this report will depend upon the number of years in the life cycle (three times the number of five year groups).

4. Cost Breakdown Totals Report

In this report, life cycle costs and percent contributions to their next higher indentured cost element are identified for each element in the cost breakdown structure.

On the left side of the report, the cost breakdown structure numbers and elements are listed in order of their hierarchial structure. Up to forty-six lines may be listed on one page. This format is successively repeated until the entire cost breakdown structure is listed. Across the top of the report, column headings are identified for total cost and percent contributions. The percent contribution heading is divided into six columns corresponding to the six indenture levels established by the cost breakdown structure hierarchy. The right-most column represents the highest indentured cost element (total life cycle cost). Under the appropriate column, the percent contribution of the cost element to its next higher indentured level cost element is identified. This report consists of three pages.

5. General Funding Report

In this report, life cycle costs are given by cost breakdown structure element and by funding type. The cost breakdown structure numbers and elements are listed by hierarchical structure down the left-hand side of the page. This format is successively repeated per page until the structure is completed. Across the top of each page, headings identify the six funding types. The funding types are followed by a total column. The entire report is contained on three pages.

6. Annual Cost by Funding Type Report

This report breaks out the annual costs into the six funding types. On the left side of the report, each year of the life cycle is listed. The last year is followed by a total line of the cost within the funding type. Across the top of the report, the funding types are identified, ending with a total heading. The entire report is contained on one page.

7. Annual Cost by Cost Category Report

Annual costs are identified in this report according to the ten cost categories.

The format of this report is similar to the previous report. Each year of the life cycle is listed down the left side of the report followed by a total line. Across the top of the report, the cost categories are identified followed by a total heading. The entire report is contained on one page.

8. Sensitivity Analysis Report

The results of sensitivity analysis are presented in this report. For each value of the sensitized variable, the life cycle cost is broken out into the five life cycle phases. In addition to the cost, the percentage change from the cost derived for the base value is given. If the sensitized variable is an array, a supplemental report displaying the values of the elements is presented.

On the left side of the report, the number of different values an element assumes is numbered starting with zero to denote the base value. Across the top of the page, the sensitized variable is identified. Beneath the identification of the sensitized variable, column headings are identified for the value of the sensitized variable, the life cycle phases, and total life cycle. For each life cycle phase and total life cycle, there are two sub-headings, one for the life cycle cost and the other for the percent change in the cost from the base analysis.

For the case where a scalar is sensitized, the value column displays the different values of the variable. If an array is sensitized, the value column displays the value of the multiplicative factor.

The supplemental report provided for sensitized arrays lists the number of elements in the array down the left-hand side of the report. Across the top of the report, the values of the elements are identified by sensitivity number and multiplicative factor corresponding to the values in the for-mentioned report. The number of pages for this report depends upon the number of elements in the array.

G. FLEX Technique in LCC Methodology

FLEX option of the LCC Model provides the analyst the flexibility to modify the standard LCC model to his specific project needs. It is realized that within the limits of the standard LCC model it is not feasible to cover a wide range of possible unique situations of every project. With this in mind, the FLEX technique is introduced. Using this technique, the analyst can modify the standard LCC model to the extent of even redefining the entire cost structure. However, this is neither intended nor recommended. The user should stay within the same framework of the standard cost model and add or delete cost elements, define and use new variables, or make use of other miscellaneous options provided by the FLEX technique to emphasize certain cost areas or make some changes in the cost calculation methodology that is more fitting to his specific project. Run Deck sequence of the computer program is shown in Figure 1. The basic optional changes of the FLEX technique are as follows:

1. Revision, Addition, or Deletion of Cost Elements

Revision, addition, or deletion of a cost element is done by providing A "CS" card in the "CS" file (refer to figure 1). The format of a"CS" card is as follows:

Column(s)	Description
1-2	Card type "CS"
3-8	Cost Breadkown Structure number
9-10	Not used
11-50	Cost element description
51-54	Not used
55-56	Cost category
57-59	Not used
60	Funding type
61-64	Not used
65	Inflation factor type
66-69	Not used
70	Equation code
71-79	Not used
80	Deletion code

Code numbers of cost categories, funding types, and inflation factor types are provided in section II.

a. Revision

If the analyst wants to maintain the cost element but make changes in the description, cost category, funding type, or inflation factor type, he must prepare a "CS" card and identify the cost breakdown structure number and modify only the changes to be implemented.

b. Addition

If the user is introducing a new cost element, he should prepare a "CS" card, and by using the standard LCC model as a reference, define a cost breakdown structure number. If the cost element is not the lowest indenture level, a cost breakdown structure number and description of the cost element is all that is needed. However, if the cost element is at the lowest indenture level, then the analyst must provide the information associated with the cost category, funding type, inflation factor type and also indicate that an equation card will follow the "CS" card (Lowest indenture level cost elements must have equations). The computer program is dimensioned to accept 100 new cost elements.

c. Deletion

If the anlayst wants to delete a cost element, he prepares a "CS" card, defines the cost breakdown structure number and punches 1 in the 80th column. Caution: This will delete the cost element specified and also all the lower indenture level cost elements below it. The analyst may use the deleted cost structure numbers for new cost element defintions. Note: If a standard LCC model cost factor is deleted thru deletion of cost elements not being used again, it may be excluded from the NAMELIST data.

2. Equations for Cost Elements

Equations are identified with an "EQ" card provided in the same field with "CS" cards. Equations may be provided to modify the existing equations or for new cost elements. In either case, an "EQ" card must follow a "CS" card with the same cost breakdown structure number. Equation card format is as follows:

Column(s)	Description
1-2	Card type "EQ"
3-8	Cost breakdown structure number
9-10	Not used
11-80	Cost equation

Equations may be continued to another card by breaking off at a comma or semicolon and resuming in the next card. A continuation card must be an "EQ" card and must be identified by the same cost breakdown structure number.

Equations are written in Reversed Polish notation in which each operation (+ , - , * , / , **) acts on the two quantities immediately preceding it, working from left to right (many electronic calculators use this technique). Thus A,B,C,+,* represents (B+C)*A. Equation elements are

separated by commas. Summation is indicated by the semicolon. The sequence is "subscript, minimum value, maximum value". The subscript "I" always denotes the year and is treated differently. Those years outside the range of "I" are assigned a cost of zero while those within the range are assigned the cost obtained by fixing the value of "I" appropriately and summing over the other subscripts. Samples of equations written in Reversed Polish Notation are:

a.

```
A(I);I,1,Y
```

Same as,

$$\sum_{I=1}^{Y} A(I)$$

b.

```
A(I,J)(,B,+,C(J),*D,E,**,-,F,/;I,1,Y,J,1,N
```

Same as,

$$\sum_{I=1}^{Y} \sum_{J=1}^{N} \left| \left| \left| A(I,J) + B \right| * C(J) \right| - D^{E} \right| / F$$

3. New Variables

In new equations, the analyst has the option to use the built-in cost factors defined for the standard cost model or define, describe, and use values for new variables thru the "NV" file (refer to Figure V.1). The computer program is dimensioned to accept 50 new scalars and 50 new arrays. The analyst must use internally defined dimensioning scalars for the new arrays, they must be read in before any of the arrays dimensioned by it.

a. Variable Description Card

This card is optionally used to describe the user input variables. If one card is not enough, the description of the variable is continued on the next card. A maximum of two cards can be used for each variable. The format of both cards are identical. If two cards are used, they must be consecutive in the "NV" file. "DS" cards may appear anywhere in the file as long as they do not separate an "NV" card from its continuation. The format of a "DS" card is as follows:

Column(s)	Description
1-2	Card type "DS"
3-4	Not used
5-15	Variable name
16-72	Variable description
73-80	Not used

b. Variable name and value input card ("NV" Card)

Whenever a new variable is used, it must be defined and its value must be used by an "NV" card. An "NV" card may appear anywhere in the "NV" file as long as it does not separate another "NV" card from its continuation. An "NV" card may be continued to another "NV" card by breaking off at a comma (comma signifies the continuation of the card) and resuming on the next "NV" card identified by the same variable name. Variable values are used the same way as in the NAMELIST data input procedures as described in Section V. The format of the "NV" file is as follow:

Column(s)	Description
1-2	Card type "NV"
3-4	Not used
5-15	Variable name
16-80	Variable value

4. Other FLEX Options

a. Cost Categories

The standard LCC cost model provides 10 defaulted cost categories. However the analyst may vary the number of cost categories from one to twenty, and define the cost category names at his option. These variables must be used through the NAMELIST data as follows:

NOCAT- The number of cost categories (Integer) e.g.,

NOCAT=11,

CAT1,CAT2.....CAT20- The variables that define the cost category names. The first ten default to the names in the standard LCC cost categories. These variables must be entered in quotes in blocks of maximum 8 characters:

CAT8='FACILITI','ES',

CAT11='MANAGEME','NT',

b. Cost Elements (Cost elements defined in the summary report)

The standard LCC model defaults to five cost elements in the summary report. However, the analyst may vary this by changing the LCC model cost breakdown structure defintion. The first number of the cost breakdown structure number determines the number of cost elements in the summary report. Using the FLEX technique the analyst may vary this number from one to six. The reporting format of the computer program automatically adjusts to the changes. The analyst may also change the title of the cost elements in the summary report by using the following variables which must be input thru NAMELIST data:

ELT1,ELT2,.....ELT6- Cost element titles. The first five default to DEVELOPMENT, INVESTMENT, O&S, ASSOC SYSTEMS and TERMINATION . These variables must be entered in quotes with a maximum of 8 characters:

ELT4='OPERATIO','NS",

c. Funding type (Titles for the Funding reports)

The number of funding types are fixed to six. However, the analyst may change the title of the funding type by providing the following variables thru NAMELIST data:

FUND1,FUND2,.....FUND6- Funding titles default to R&D, PROCUREMENT, CONSTRUCTION, O&M, MILITARY, OTHERS. They must be entered in quotas with a maximum of eight characters (e.g. FUND6='SUNK COS','T',).

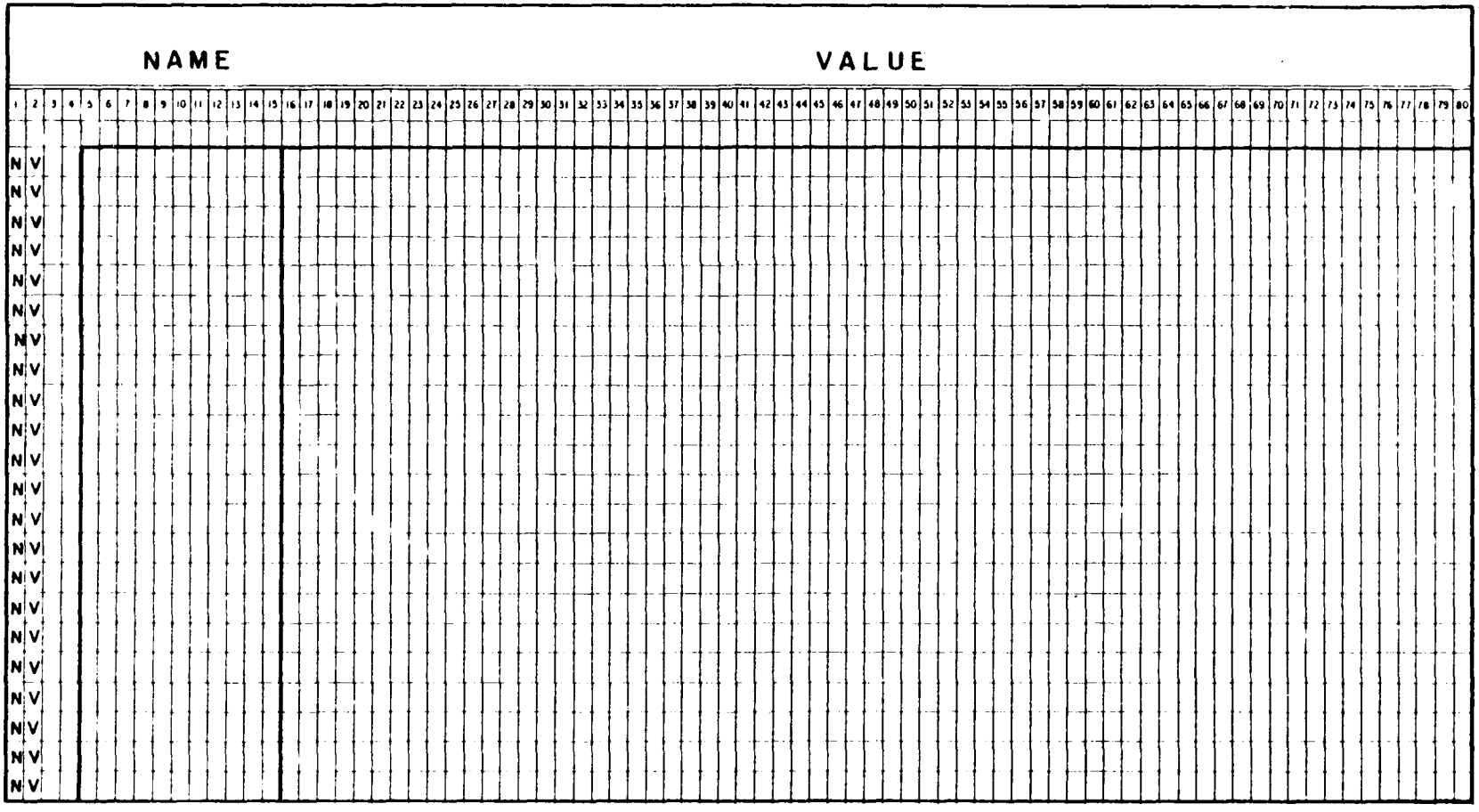
d. Years

Life cycle cost years are automatically generated in the program from 1 to total number of years 'Y'. However, the analyst may provide alpha-numeric presentation of the years by providing values for the variable 'YEARS' thru NAMELIST data:

Years are read in quotes in block of four characters (e.g. YEARS='BY94','FY95','1996',).

LCC MODEL [NV] DATA ELEMENT VALUES

PAGE____
OF____



APPENDIX A

Learning Curve Concept

A. Learning Curves

One of the assumptions needed to perform life cycle costing is production quantity. Sometimes the cost data collected on unit production cost does not correspond exactly to the production quantity to be used for the life cycle costing analysis. This appendix presents the theory regarding learning curves. It will allow the cost analyst to convert the collected data to the production cost needed for the analysis.

The learning curve is based on historical evidence that as the total quantity of units produced increases, the man hours or cost to produce that quantity will be reduced by some percentages.

Some of the factors contributing to this decline are:

1. Repetition causes workers to become more familiar with job
2. Development of more efficient tools and machines
3. Improvement in organization and management
4. Solution of engineering production problems.

Figure A-1 is an example of a learning curve plotted on rectilinear graph paper. However, when this same example is plotted on log-log graph paper, the curve becomes a straight line (Figure A-2). Thus, the learning curve is known as "log-linear."

The general form of the equation for Figure A-1 and A-2 is:

$$Y = AX^{B}$$

where,

Y = cost for unit
A = the cost to produce the first unit
X = the cumulative output
B = the slope of the learning curve

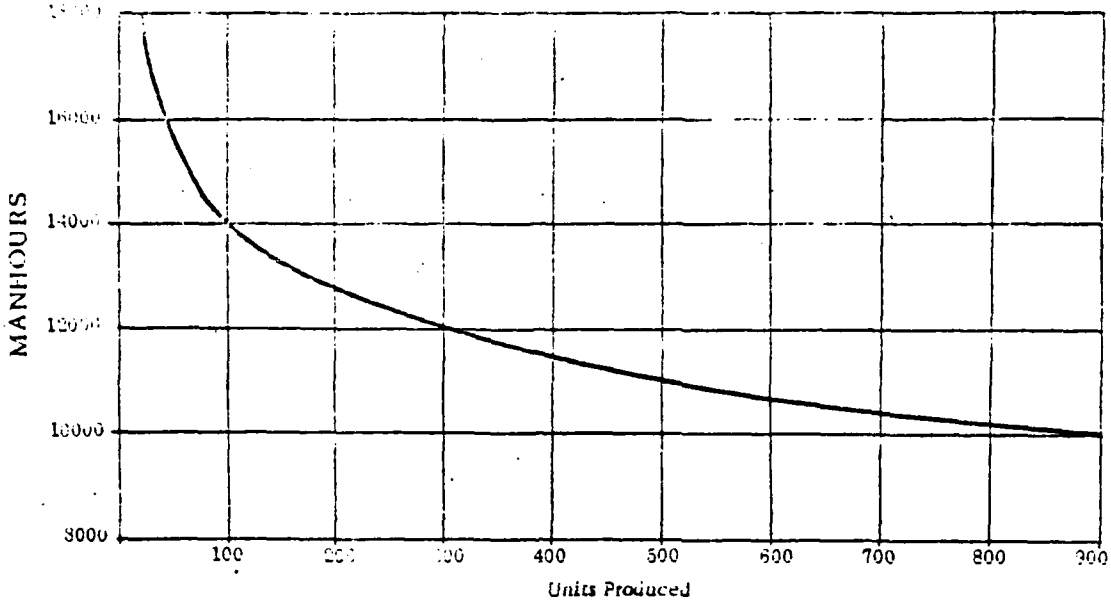


FIGURE A-1
Learning Curve Example Plotted on Rectilinear Graph Paper

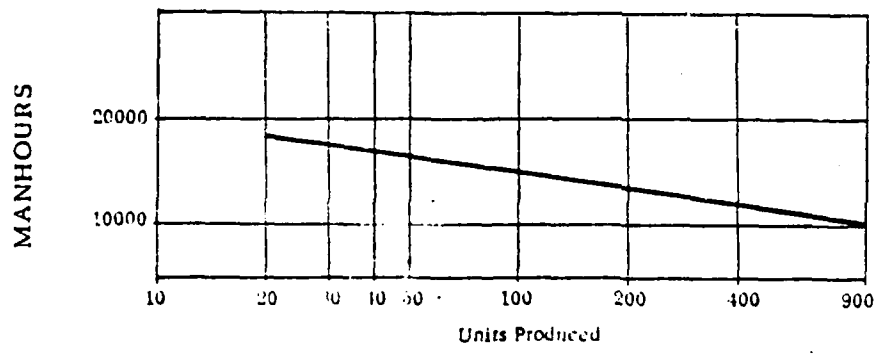


FIGURE A-2
Learning Curve Example (From FigureA-1)Plotted on Log-Log Paper

The type of learning curve applicable to major weapon system programs is the unit cost curve. For this learning curve, a fixed and declining relationship exists between the unit costs and successively increased production quantities.

It should be noted that the slope of the learning surve varies among different products, contractors and even multiple production lines. Therefore, it is necessary that the analyst exercise due care in estimating these slopes and in application of the theory.

B. Unit Cost Learning Curve

When an increased production quantity results in a constant percentage decline in the unit cost, the unit cost learning curve is described by the function:

$$y_i = Ax_i^B \tag{1}$$

where,

y_i = cost of the ith unit

x_i = cumulative output

A = cost of the first unit

B = slope of the learning curve.

When the unit cost learning curve is log-linear, the cumulative average cost can be found by the relationship:

$$\bar{Y} = \frac{A \sum_{i=1}^{n} x_i^B}{n} \tag{2}$$

where,

$\bar{Y}$ = cumulative average cost for n items

A = cost of first unit

x = cumulative output

B = slope of the learning curve.

Figure A-3 presents values of Equations (1) and (2) for selected production quantities and slopes when A is equal to one.

C. Learning Curve Slope

The value of the learning curve slope, S, is defined as the ratio of y values as two x values which differ by a factor of two. The slope may be expressed as:

$$S = \frac{\bar{Y}_{2x}}{\bar{Y}_x} = \frac{A(2x)^B}{A(x)^B} = 2^B$$

Figure A-4 presents values of B for slopes running from 75 to 90 percent. When the slope S is known, B can be found in the tables and substituted in one of the Equations (1) or (2).

FIGUREA-3SLCPE - QUANTITY FACTORS FOR THE UNIT COST LEARNING CURVE

QUANTITY

SLOPE		2	5	10	25	50	100	250	500	1000	2000	5000
(Y_i)	90%	0.900	0.783	0.705	0.613	0.552	0.497	0.432	0.389	0.350	0.315	0.274
	85%	0.850	0.686	0.583	0.470	0.400	0.340	0.274	0.233	0.198	0.168	0.136
	80%	0.800	0.596	0.477	0.355	0.284	0.227	0.169	0.135	0.108	0.0866	0.0644
$(\bar{Y}_n)$	90%	0.950	0.868	0.799	0.708	0.643	0.581	0.508	0.457	0.412	0.371	0.323
	85%	0.925	0.806	0.712	0.592	0.510	0.438	0.355	0.303	0.258	0.219	0.178
	80%	0.900	0.747	0.632	0.492	0.402	0.327	0.246	0.198	0.159	0.127	0.0947
$(\frac{\bar{Y}_n}{y_i})$	90%	1.05	1.11	1.13	1.15	1.16	1.17	1.18	1.18	1.18	1.18	1.18
	85%	1.09	1.17	1.22	1.26	1.28	1.29	1.30	1.30	1.30	1.30	1.31
	80%	1.13	1.25	1.32	1.39	1.42	1.44	[illegible]	[illegible]	[illegible]	1.47	[illegible]

y_i = COST PER UNIT FOR THE iTH UNIT

$\bar{Y}_n$ = CUMULATIVE AVERAGE COST OF "N" ITEMS.

$$y_i = x^B$$

$$\bar{Y}_n = \frac{\sum_{i}^{n} x_i^B}{n}$$

FIGURE A-4

VALUES OF B FOR SLOPES BETWEEN 75 AND 90 PERCENT

SLOPE S	B
90	-0.152
89	-0.168
88	-0.184
87	-0.201
86	-0.218
85	-0.234
84	-0.252
83	-0.269
82	-0.286
81	-0.304
80	-0.322
79	-0.340
78	-0.358
77	-0.377
76	-0.396
75	-0.415

APPENDIX B

Sample Computer Run

A. Introduction

This Appendix presents a sample computer run of the FLEX LCC Model. The values used in this sample should not be considered as reference for actual calculations.

B. Sample Input Data

The following pages provide a listing of the input data used for the sample run. Recent modifications to the computer program have caused a change to the input processing of data as described in the main part of this document. These changes are described below and are obvious by examining the listing of input data.

1. NAMELIST Inputs

Table B-1 identifies only those cost factors that may be entered via the NAMELIST input technique. Prior to the recent modifications, all variables contained in the defaulted equations were entered by this technique.

2. New Variable Inputs

All the cost factors listed in Table 5 of the main report are now entered via NV cards. It should be noted that factor "NNN(I)" is no longer calculated but entered directly.

Table B-1

NAMELIST INPUT COST FACTOR DIRECTORY

NAME	DESCRIPTION
BY	Base year during/from which all cost adjustments are made.
IRCON(I)	Annual inflation rate for future costs for construction type of funding during year I. (ratio)
IROM(I)	Annual inflation rate for future costs of O&M type of funding during year I. (ratio)
IRPROC(I)	Annual inflation rate for future costs of procurement type of funding during year I. (ratio)
IRRD(I)	Annual inflation rate for future costs of R&D type of funding during year I. (ratio)
IYI	Year I during which initial costs occur.
Y	Total number of years covered by the life cycle cost analysis.

```
//HARDPMTA JOB 431915P4,4ROA ...250,MSGLEVEL=(1,1),CLASS=D,TYPRUN=COPY JOB  11A
// EXEC LCCFL...
//FT11F001 DD *
DS  Y         NUMBER OF YEARS IN LIFE CYCLE
DS  BY        BASE YEAR
DS  IRAD      INFLATION RATE FOR R & D FUNDING
DS  IPROC     INFLATION RATE FOR PROCUREMENT FUNDING
DS  IRCON     INFLATION RATE FOR CONSTRUCTION FUNDING
DS  IOOM      INFLATION RATE FOR O & M FUNDING
DS  DR        DISCOUNT RATE
DS  IYI       YEAR I DURING WHICH INITIAL COSTS OCCUR
DS  NOCAT     NUMBER OF COST CATEGORIES
DS  F         NUMBER OF DIFFERENT GRADES OF COMMAND STAFF PERSONNEL
DS  G         NUMBER OF DIFFERENT GRADES OF CREW PERSONNEL
DS  H         NUMBER OF DIFFERENT GRADES OF PERSONNEL MAINTAINING THE O
DS  H         RDNANCE SYSTEMS
DS  U         NUMBER OF DIFFERENT GRADES OF PERSONNEL MAINTAINING THE W
DS  U         EAPON SYSTEM
DS  N         NUMBER OF DIFFERENT TYPES OF SUPPORT EQUIPMENT
DS  Z         NUMBER OF EQUIPMENTS IN THE WEAPON SYSTEM SUBJECTED TO DE
DS  Z         POT REWORK / OVERHAUL
DS  DD        NUMBER OF EQUIPMENTS IN THE WEAPON SYSTEM SUBJECTED TO DE
DS  DD        POT MAINTENANCE
DS  EE        NUMBER OF EQUIPMENTS IN THE WEAPON SYSTEM
DS  AA        FIRST PIECE COST OF WEAPON SYSTEM,($)
DS  ACST      AVERAGE COST OF ITEM PER DISCARD MAINTENANCE ACTION TO EE
DS  ACST      TH EQUIPMENT,($/SCRAP ACTION)
DS  AD        DOCUMENTATION ACQUISITION COST DURING YEAR I,($/YR)
DS  ADC       PAYMENTS BY GOVT. TO CONTRACTORS FOR MWS VALIDATION EFFOR
DS  ADC       T,($/YR)
DS  ADG       GOVT. EXPENDITURES FOR MWS VALIDATION EFFORT,($/YR)
DS  ADSC      AVERAGE SCRAP RAT  OF ITEMS IN THE EETH EQUIPMENT,(SCRAP
DS  ADSC      ACTIONS/FAILURE)
DS  AIIC      GOVT. EXPENDITURES FOR CONSTRUCTING,CONVERTING,ALTERING,
DS  AIIC      OR MODIFYING SHORE FACILITIES,($/YR)
DS  AIOC      INCREMENTAL COSTS FOR OPERATING AND SUPPORT OF ASHORE IMA
DS  AIOC      S,($/YR)
DS  ALUR      AVG. 2 WAY PACKING LABOR COST FOR SHIPPING EQUIP. CC FAIL
DS  ALUR      ED ITEMS BETWEEN INT. & DEPOT LEVEL FACILITIES,($/RCM)
DS  ALR       AVG. 2 WAY PACKING LABOR COST FOR SHIPPING EQUIP. X REWOR
DS  ALR       K/OVERHAUL ITEMS BETWN INT & DEPOT LEVEL,($/(REWK/OVHAL))
DS  AMST      AVG.PKG.MAT.COST FOR SHIPPING EQUIP.CC FAILED ITEMS BETWE
DS  AMST      EN INT.&DEPOT LEVEL FACILITIES,($/RCM)
DS  AMTR      AVG.PKG.MAT.COST FOR SHIPPING EQUIP.X REWORK/OVERHAUL ITE
DS  AMTR      MS BETWEEN INT.&DEPOT LEVEL FACILITIES,($/(REWRK/OVHAL))
DS  APS       GOVT. EXPENDITURES FOR PERSONNEL SUPPORT AT AFLOAT FACILI
DS  APS       TIES,($/YR)
DS  APSA      GOVT. EXPENDITURES FOR PERSONNEL SUPPORT AT ASHORE FACILI
DS  APSA      TIES,($/YR)
DS  ASSE      GOVT. EXPENDITURES FOR ACQUISITION OF COMMON SUPPORT EQUI
DS  ASSE      PMENT,($/YR)
DS  ASF       GOVT. EXPENDITURES TO MAKE COMMON SUPPORT EQUIP. AVAILABL
DS  ASF       E FOR SUPPORT OF THE WEAPON SYSTEM,($/YR)
DS  ASEC      SECURITY COST INCURRED DURING YEAR I,($/YR)
DS  ATNS      AVG. 2 WAY SHIPPING COST FOR SHIPPING EQIP.X REWORK/OVERH
DS  ATNS      AUL ITEMS BETWEEN INT.&DEPOT LEVEL FACIL.($/(REWK/OVHAL))
DS  ATRM      AVG. 2 WAY SHIPPING COST FOR SHIPPING EQUIP.CC FAILED ITE
DS  ATRM      MS BETWEEN INT.&DEPOT LEVEL FACILITIES,($/RCM)
DS  BCM       EXP'D CAPABILITY OF MAINTENANCE RATE OF EQUIPMENT CC,(RA
DS  BCM       TIO)
DS  BOSC      GOVT. EXPENDITURES FOR BASE OPERATING SUPPORT,($/YR)
DS  CIF       GOVT. PAYMENTS TO CONTRACTORS FOR INDUSTRIAL FACILITIES,(
DS  CIF       $/YR)
```

```
      DS  CTT       GOVT. PAYMENTS TO CONTRACTOR FOR INTEGRATION AND TEST OF
      DS  CTT       THE COMPLETE WEAPON SYSTEM.($/YR)

      DS  CPM       GOVT. PAYMENTS TO CONTRACTOR FOR PROGRAM MANAGEMENT OF TH
      DS  CPM       E PRODUCTION UNITS.($/YR)
      DS  CSE       ACQUISITION COST OF SUPPORT EQUIPMENT TYPE C.($/EQUIPMENT
      DS  CSE       )
      DS  CSPR      COST OF INITIAL SPARES AND REPAIR PARTS PER AIRCRAFT SUPP
      DS  CSPR      ORTING BASE.($/BASE)
      DS  CSPS      COST OF INITIAL SPARES AND REPAIR PARTS PER SHIP SYSTEM.
      DS  CSPS      ($/SYSTEM)
      DS  CSU       GOVT. PAYMENTS TO CONTRACTORS FOR TECHNICAL SUPPORT OF TH
      DS  CSU       E INVESTMENT PHASE.($/YR)
      DS  CTE       COST OF CONTRACTOR TRAINING EQUIPMENT IN YEAR I.($/YR)
      DS  CTOE      FIRST DESTINATION TRANSPORTATION COST FOR THE WEAPON SYST
      DS  CTOE      EM.($/SYSTEM)
      DS  CTS       COST OF CONTRACTOR SERVICES.($/YR)
      DS  DC        GOVT.EXPENDITURES FOR STORING,REPRODUCING,PACKAGING, AND
      DS  DC        SHIPPING TECHNICAL AND MANAGERIAL DATA.($/YR)
      DS  DCD       GOVT. PAYMENTS TO CONTRACTORS FOR DOCUMENTATION FOR THE F
      DS  DCD       ULL SCALE DEVELOPMENT EFFORT.($/YR)
      DS  DCE       GOVT. PAYMENTS TO CONTRACTORS FOR ENGINEERING FOR THE FUL
      DS  DCE       L SCALE DEVELOPMENT EFFORT.($/YR)
      DS  DCH       GOVT. PAYMENTS TO CONTRACTORS FOR PROTOTYPE HARDWARE FOR
      DS  DCH       THE FULL SCALE DEVELOPMENT EFFORT.($/YR)
      DS  DCPM      GOVT. PAYMENTS TO CONTRACTORS FOR PROGRAM MANAGEMENT FOR
      DS  DCPM      THE FULL SCALE DEVELOPMENT EFFORT.($/YR)
      DS  DCRS      DEPOT LABOR AND MATERIAL COST PER SHIP PER YEAR FOR COMPO
      DS  DCRS      NENT REPAIR.($/SHIP/YR)
      DS  DCS       GOVT.PAYMENTS TO CONTRACTORS FOR DEVELOPMENT OF SOFTWARE
      DS  DCS       FOR THE FULL SCALE DEVELOPMENT EFFORT.($/YR)
      DS  DCSE      GOVT. EXPENDITURES FOR SYSTEMS ENGINEERING FOR FULL SCALE
      DS  DCSE      DEVELOPMENT EFFORT.($/YR)
      DS  DCT       GOVT.EXPENDITURES FOR AGE/GSE/IE IN SUPPORT OF THE T&E PR
      DS  DCT       OGRAM DURING FULL SCALE DEVELOPMENT PHASE.($/YR)
      DS  DCTE      GOVT.PAYMENTS TO CONTRACTORS FOR INTEGRATING AND TESTING
      DS  DCTE      WEAPON SYSTEM FOR FULL SCALE DEVELOPMENT EFFORT.($/YR)
      DS  DCTS      GOVT.EXPENDITURES FOR TEST SPARES FOR THE FULL SCALE DEVE
      DS  DCTS      LOPMENT EFFORT.($/YR)
      DS  DCPM      GOVT.EXPENDITURES FOR PROJECT MANAGEMENT FOR THE FULL SCA
      DS  DCPM      LE DEVELOPMENT EFFORT.($/YR)
      DS  DCTA      GOVT. COSTS FOR TEST SITE ACTIVATION/DEACTIVATION DURING
      DS  DCTA      FULL SCALE DEVELOPMENT T&E PROGRAM.($/YR)
      DS  DCTT      GOVT. EXPENDITURES FOR TEST PERSONNEL AND TRAINING COST F
      DS  DCTT      OR THE FULL SCALE DEVELOPMENT EFFORT.($/YR)
      DS  DSC       PRO RATA SHARE OF OPERATING AND SUPPORT COSTS OF EMBARKED
      DS  DSC       SYSTEMS.($/YR)
      DS  DSSC      STORES COST PER WEAPON SYSTEM DURING YEAR I.($/SYSTEM)
      DS  EA        GOVT. EXPENDITURES FOR MAINTENANCE FACILITY ACTIVATION ($
      DS  EA        /YR)
      DS  EM        GOVT.RECEIPTS FROM FOREIGN MILITARY SALES OF PREVIOUSLY D
      DS  EM        EVELOPED WEAPON SYSTEMS,TO DEFRAY R&D COST OF MWS.($/YR)
      DS  ESA       FIELD SUPPLY ADMINISTRATION COST OF THE NSN.($/NSN/SITE/Y
      DS  ESA       R)
      DS  GE        COST OF GFE/GFM PER WEAPON SYSTEM.($/SYSTEM)
      DS  GOH       DEPOT REWORK/OVERHAUL COST FOR EQUIPMENT X.($/(REWORK/OVE
      DS  GOH       RHAUL))
      DS  GRC       DEPOT REPAIR MATERIAL AND LABOR COST FOR EQUIPMENT CC.($/
      DS  GRC       FAILURE)
      DS  HCC       GOVT. EXPENDITURES FOR HEALTH CARE.($/YR)
      DS  IPS       GOVT. EXPENDITURES FOR INSTALLATION PERSONNEL SUPPORT.($/
      DS  IPS       YR)
      DS  MATS      MATERIAL COST PER SYSTEM PER YEAR.($/SYSTEM)
      DS  MFC       GOVT. EXPENDITURES FOR MAINTENANCE OF THE AFLOAT FACILITI
      DS  MFC       ES.($/YR)
      DS  MFCA      GOVT. EXPENDITURES FOR MAINTENANCE OF THE ASHORE FACILITI
```

```
DS  MFCA      FS ($/YR)
DS  MLIC      GOVT. EXPENDITURES FOR CONSTRUCTING, CONVERTING, ALTERING
DS  MLIC      , OR MODIFYING THE MLSF.($/YR)
DS  MLOC      INCREMENTAL COSTS FOR OPERATING AND SUPPORT OF THE MLSF.(
DS  MLOC      $/YR)
DS  MODC      MODERNIZATION COST PER WEAPON SYSTEM DURING YEAR I.($/SYS
DS  MODC      TEM)
DS  MODM      MODIFICATION COST PER WEAPON SYSTEM DURING YEAR I.($/SYST
DS  MODM      EM)
DS  MS        UNIT PAY AND ALLOWANCES OF GRADE T PERSONNEL.($/MAN)
DS  MSO       UNIT PAY AND ALLOWANCES OF GRADE V PERSONNEL.($/MAN)
DS  MTBF      MEAN TIME BETWEEN FAILURES OF THE KTH EQUIPMENT.(HRS/FAI
DS  MTBF      LURE)
DS  MTBO      MEAN TIME BETWEEN DEPOT REWORK/OVERHAUL OF THE KTH EQUIPM
DS  MTBO      ENT.(HRS/(REWORK/OVERHAUL))
DS  NB        NUMBER OF NEWLY INTRODUCED BASES SUPPORTING AIRCRAFT DURI
DS  NB        NG YEAR I.(BASES)
DS  NC7       TOTAL NUMBER OF CREW PERSONNEL OF GRADE A IN YEAR I.(MEN)
DS  NFMP      NUMBER OF MAINTENANCE FACILITIES SERVICING THE MAJOR WEAP
DS  NFMP      ON SYSTEM IN YEAR I.(SITES)
DS  NFMS      NUMBER OF MAINTENANCE FACILITIES SERVICING SUPPORT SYSTEM
DS  NFMS      S OF THE MAJOR WEAPON SYSTEM IN YEAR I.(SITES)
DS  NMP       NUMBER OF PERSONNEL OF GRADE T AT AFLOAT FACILITIES MAINT
DS  NMP       AINING THE WEAPON SYSTEM.(MEN/GRADE/YR)
DS  NMPA      NUMBER OF PERSONNEL OF GRADE T AT ASHORE FACILITIES MAINT
DS  NMPA      AINING THE WEAPON SYSTEM.(MEN/GRADE/YR)
DS  NN        NUMBER OF WEAPON SYSTEMS INTRODUCED INTO INVENTORY DURING
DS  NN         YEAR I.(SYSTEM/YR)
DS  NNN       NUMBER OF WEAPON SYSTEMS IN INVENTORY DURING YEAR I.(SYST
DS  NNN       EMS)
DS  NNO       NUMBER OF PERSONNEL OF GRADE V AT AFLOAT FACILITIES MAINT
DS  NNO       AINING ORDNANCE SYSTEMS.(MEN/GRADE/YR)
DS  NNOA      NUMBER OF PERSONNEL OF GRADE V AT ASHORE FACILITIES MAINT
DS  NNOA      AINING ORDNANCE SYSTEMS.(MEN/GRADE/YR)
DS  NPO       NUMBER OF WEAPON SYSTEMS PHASED OUT DURING YEAR I.(SYSTEM
DS  NPO       S/YR)
DS  NSE       TOTAL POPULATION OF SUPPORT EQUIPMENTS OF TYPE C.(EQUIPME
DS  NSE       NTS/YR)
DS  NSNP      NUMBER OF NEW NSNS INTRODUCED INTO SUPPLY SYSTEM BY THE M
DS  NSNP      AJOR WEAPON SYSTEM.(NSNS)
DS  NSNS      NUMBER OF NEW NSNS INTRODUCED INTO SUPPLY SYSTEM BY SUPPO
DS  NSNS      RT SYSTEMS OF THE MAJOR WEAPON SYSTEM.(NSNS)
DS  NSTA      TOTAL NUMBER OF COMMAND STAFF PERSONNEL OF GRADE E IN YEA
DS  NSTA      R I.(MEN)
DS  OPM       GOVT. EXPENDITURES IN YEAR I FOR OTHER DEPLOYED MANPOWER,
DS  OPM       ($/YR)
DS  OT        ANNUAL OPERATING TIME OF THE WEAPON SYSTEM.(HRS/SYSTEM/YR
DS  OT        )
DS  PA        ANNUAL PAY AND ALLOWANCES PER MAN OF GRADE A.($/MAN)
DS  PAFC      GOVT. EXPENDITURES FOR PERSONNEL ACTIVITIES.($/YR)
DS  PAS       ANNUAL PAY AND ALLOWANCES PER MAN OF GRADE E.($/MAN)
DS  PESC      GOVT. EXPENDITURES FOR PERSONNEL SUPPORT.($/YR)
DS  PMG       GOVT. PROJECT MANAGEMENT COST.($/YR)
DS  POT       PROPORTION OF TIME PERSONNEL OF GRADE T ARE DEDICATED TO
DS  POT       WEAPON SYSTEM.(RATIO)
DS  PSC       GOVT. EXPENDITURES FOR PERSONNEL SUPPORT.($/YR)
DS  RTE       TEST AND EVALUATION COSTS INCURRED DURING YEAR I.($/YR)
DS  RIF       AVERAGE NSN ENTITY COST INTO THE SUPPLY SYSTEM.($/NSN)
DS  RTN       AVERAGE NSN RETENTION COST IN THE SUPPLY SYSTEM.($/NSN)
DS  RMF       REPAIR MATERIAL COST AT AFLOAT FACILITY PER SYSTEM PER YE
DS  RMF       AR.($/SYSTEM)
DS  RMFA      REPAIR MATERIAL COST AT ASHORE FACILITY PER SYSTEM PER YE
DS  RMFA      AR.($/SYSTEM)
DS  RPMC      GOVT. EXPENDITURES FOR REAL PROPERTY MAINTENANCE.($/YR)
DS  RSEC      GOVT. EXPENDITURES FOR REPLENTISHMENT SUPPORT EQUIPMENT.(
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      DS  RSSC        $/YR)
      DS  RTRE        GOVT. EXPENDITURES FOR REPLACEMENT TRAINING EQUIPMENT.($/
                      YR)
      DS  RTRS        GOVT. EXPENDITURES FOR TRAINING SERVICES FOR PERSONNEL RE
      DS  RTRS        PLACING THOSE LOST THROUGH ATTRITION.($/YR)
      DS  SA          GOVT. EXPENDITURES FOR OPERATIONAL SITE ACTIVATION.($/YR)
      DS  SS          COST OF SYSTEM STOCK FOR YEAR I.($)
      DS  SSS         SLOPE OF LEARNING CURVE.(RATIO)
      DS  TAD         ANNUAL TEMPORARY ASSIGNMENT OF DUTY COST PER MEMBER OF CR
      DS  TAD         EW.($/MAN)
      DS  TFSM        MAJOR WEAPON SYSTEM TERMINAL COST/VALUE.($/-$/SYSTEM)
      DS  TFSC        GOVT. EXPENDITURES FOR TECHNICAL SUPPORT.($/YR)
      DS  TRE         GOVT. EXPENDITURES FOR TRAINING EQUIPMENT.($/YR)
      DS  TRF         GOVT. EXPENDITURES FOR TRAINING FACILITIES.($/YR)
      DS  TRIC        GOVT. EXPENDITURES FOR CONSTRUCTING,CONVERTING, ALTERING,
      DS  TRIC         OR MODIFYING TENDERS AND REPAIR SHIPS.($/YR)
      DS  TRSC        INCREMENTAL COSTS FOR OPERATING AND SUPPORT OF THE TENDER
      DS  TRSC         AND REPAIR SHIPS.($/YR)
      DS  TRS         GOVT. EXPENDITURES FOR TRAINING SERVICES.($/YR)
      //FT13F001 DD *
      CS000000  LIFE CYCLE COST
      CS100000  RESEARCH AND DEVELOPMENT
      CS110000  VALIDATION
      CS111100  CONTRACTOR                          1   1   1   1
      EQ111100  ADC(I)*I,1,Y
      CS112100  GOVERNMENT                          2   1   1   1
      EQ112100  ADG(I)*I,1,Y
      CS120000  FULL SCALE DEVELOPMENT
      CS121100  CONTRACTOR
      CS121110  PROGRAM MANAGEMENT                  1   1   1   1
      EQ121110  DCPC(I)*I,1,Y
      CS121200  ENGINEERING                         1   1   1   1
      EQ121200  DCE(I)*I,1,Y
      CS121310  PROTOTYPE HARDWARE                  1   1   1   1
      EQ121310  DCH(I)*I,1,Y
      CS121410  SOFTWARE                            1   1   1   1
      EQ121410  DCS(I)*I,1,Y
      CS121500  INTEGRATION AND TEST                1   1   1   1
      EQ121500  DCTF(I)*I,1,Y
      CS121600  DOCUMENTATION                       1   1   1   1
      EQ121610  DCD(I)*I,1,Y
      CS122100  GOVERNMENT
      CS122110  PROJECT MANAGEMENT                  2   1   1   1
      EQ122110  DGPM(I)*I,1,Y
      CS122200  SYSTEMS ENGINEERING                 2   1   1   1
      EQ122210  DGSE(I)*I,1,Y
      CS122310  SYSTEM TEST AND EVALUATION
      CS122310  TEST PERSONNEL AND TRAINING         3   1   1   1
      EQ122310  DGTT(I)*I,1,Y
      CS122320  TEST SHARES                         3   1   1   1
      EQ122320  DGTS(I)*I,1,Y
      CS122330  TEST GSE/GSE/TF                     3   1   1   1
      EQ122330  DGT(I)*I,1,Y
      CS122340  TEST FACILITIES                     3   1   1   1
      EQ122340  DGTS(I)*I,1,Y
      CS122400  FOREIGN MILITARY SALES              2   6   4   1
      EQ122400  FM(I)*I,1,Y
      CS200000  INVESTMENT
      CS210000  ACQUISITION (CONTRACTOR)
      CS211000  PRODUCTION HARDWARE                 4   2   2   1
      EQ211000  AA*MN(I)*II,1,Y
      CS212000  PECULIAR SUPPORT EQUIPMENT          8   2   2   1
      EQ212000  NSE(I,C)*CSE(C)**C,1,D,I,1,Y
      CS213000  TRAINING                            5   2   2   1
      EQ213000  CTE(I)*CTS(I)**II,1,Y
```

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CS322120  [illegible] MAINTENANCE                            10   4   4   1
EU322120  [illegible](I,X),HSO(V),*II,1,Y,V,1,Y

CS322200  MATERIAL                                       10   4   4   1
EU322200  NM(I),RMFA,*II,1,Y
CS322300  PERSONNEL SUPPORT                              10   4   4   1
EU322300  APSS(I)II,1,Y
CS322400  SITE MAINTENANCE                               10   3   3   1
EU322400  MECS(I)II,1,Y
CS330000  INSTALLATION SUPPORT
CS331000  BASE OPERATING SUPPORT                         10   3   3   1
EU331000  BOSC(I)II,1,Y
CS332000  REAL PROPERTY MAINTENANCE                      10   3   3   1
EU332000  RPMC(I)II,1,Y
CS333000  PERSONNEL SUPPORT                              10   3   3   1
EU333000  IPS(I)II,1,Y
CS340000  DEPOT MAINTENANCE
CS341000  SCHEDULED MAINTENANCE                          10   4   4   1
EU341000  NAN(I),OT,*,GOH(X),*,MTGO(X),/IX,1,Z,I,1,Y
CS342000  UNSCHEDULED MAINTENANCE                        10   4   4   1
EU342000  NAN(I),OT,*,RCM(CC),*,GMC(CC),*,MTBF(CC),/ICC,1,DU,I,1,Y
CS343000  MODERNIZATION                                  10   4   4   1
EU343000  NMN(I),MODC(I),*II,1,Y
CS344000  COMPONENT REPAIR                               10   4   4   1
EU344000  NM(I),UCRS,*II,1,Y
CS350000  DEPOT SUPPLY
CS351000  MATERIAL MANAGEMENT                             7   4   4   1
EU351000  ASVP,ASVS,*,PIV,*,NMFP(I),NSNP,*,NMFS(I),NSNS,*,*,FSA,*,*I],1,Y
CS352000  TECHNICAL SUPPORT                              10   4   4   1
EU352000  TESC(I)II,1,Y
CS360000  SECOND DESTINATION TRANSPORTATION
CS361000  SCHEDULED                                      10   4   4   1
EU361000  ATCS(I),ACH(X),*,AMTP(X),*,OT,*,NNN(I),*,MTGO(X),/IX,1,Z,1,1,Y
CS362000  UNSCHEDULED                                    10   4   4   1
EU362000  ATM(CC),UMP(CC),*,AMAT(CC),*,RCM(CC),*,OT,*,NNN(I),*,MTBF(CC),/I
EU362000  CC,1,CD,I,1,Y
CS370000  PERSONNEL SUPPORT AND TRAINING
CS371000  INDIVIDUAL TRAINING                             5   2   2   1
EU371000  RTOP(I),RTRS(I),*II,1,Y
CS372000  HEALTH CARE                                     9   4   4   1
EU372000  HCC(I)II,1,Y
CS373000  PERSONNEL ACTIVITIES                            9   5   4   1
EU373000  PACC(I)II,1,Y
CS374000  PERSONNEL SUPPORT                               9   4   4   1
EU374000  PESC(I)II,1,Y
CS380000  SUSTAINING INVESTMENTS
CS381000  REPLENISHMENT SPARES                            6   2   2   1
EU381000  NA(I),OT,*,ACST(EE),*,ADSC(EE),*,MTBF(EE),/IEF,1,FF,I,1,Y
CS382000  MODIFICATIONS                                   6   2   2   1
EU382000  NM(I),MODK(I),*II,1,Y
CS383000  REPLENISHMENT SUPPORT EQUIPMENT                 d   2   2   1
EU383000  RSEC(I)II,1,Y
CS384000  EXPENDABLE STORES                               9   2   2   1
EU384000  NA(I),EXSC(I),*,I,1,Y
CS400000  ASSOCIATED SYSTEMS
CS410000  INVESTMENT
CS411000  MOBILE LOGISTICS SUPPORT FORCE                 10   2   2   1
EU411000  MLIC(I)II,1,Y
CS412000  TENDERS AND REPAIR SHIPS                       10   2   2   1
EU412000  TRIC(I)II,1,Y
CS413000  ASHORE IMA                                     10   3   3   1
EU413000  AIIC(I)II,1,Y
CS420000  OPERATING AND SUPPORT
CS421000  MOBILE LOGISTICS SUPPORT FORCE                  9   4   4   1
EU421000  MLOC(I)II,1,Y
CS422000  TENDERS AND REPAIR SHIPS                        9   4   4   1
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FU423000  TDOC(I)II.1.Y
CS423000  ASHORE IMS                                   9   4   4   1

FU423000  ATOC(I)II.1.Y
CS424000  ENGAGED SYSTEMS                              9   4   4   1
FU424000  ESC(I)II.1.Y
CS550000  TERMINATION                                  10  6   4   1
FU500000  NPO(I).TERM.*II.1.Y
//CS DD *
//DATA DD *
CNIIIII IIIIIII0   0
 &INPUT
 Y=26,RY=1,
    IPOO=26*.04, IPPROC=26*.05,  IRCON=26*.06,   IROM=26*.07,    DR=26*.10,
 &END
//IDENT DD *
                     WEAPON SYSTEM LCC TEST RUN
//NV DD *
NV  F          1.
NV  R          2.
NV  W          1.
NV  H          2.
NV  R          1.
NV  Z          11.
NV  DC         19.
NV  FF         23.
NV  IYI        5.
NV  AS         12000000.
NV  ACST(20)   20*500000.
NV  AD(Y)      5*0.,204242000.,728000.,134800.,068500.,17*0.
NV  ADC(Y)     26064000.,58725000.,24*0.
NV  ADR(Y)     0.,592000.,24*0.
NV  ADSC(20)   20*.004
NV  AITC(Y)    26*0.
NV  AIOC(Y)    25*0.
NV  ALAR(10)   0.,4*200.,0.,4*200.
NV  ALH(11)    11*25.
NV  AMST(10)   0.,4*60.,0.,4*60.
NV  AMTR(11)   11*51.
NV  APSA(Y)    6*0.,3*1400000.,5*3600000.,12*5400000.
NV  AUSF(Y)    5*0.,10260000.,15480000.,10000000.,3*5040000.,2520000.,14*0.
NV  ASF(Y)     5*0.,1026000.,1548000.,1008000.,3*504000.,252000.,14*0.
NV  ASFC(Y)    6*0.,15000.,30000.,45000.,75000.,2*90000.,105000.,120000.,
NV  ASFC(Y)    135000,135000,2*120000.,4*105000,4*90000.
NV  ATHS(11)   11*440.
NV  ATRH(10)   0.,4*500.,0.,4*500.
NV  DC (10)    0.,4*.05,0.,4*.05
NV  BOSC(Y)    4*0,20000.,60000.,80000.,140000.,2*160000.,200000.,220000.,
NV  DCSC(Y)    2*240000.,2*220000.,4*200000,4*180000.
NV  CIF(Y)     26*0.
NV  CTT(Y)     6*0.,21800000.,19*0.
NV  CPA(Y)     6*0.,26900000.,19*0.
NV  CSF(I)     39003000.
NV  CSPO       33333333.
NV  CSU(Y)     5*0.,5880000.,7049600.,6440000.,5840000.,9010000.,4340000.,15*0.
NV  CTF(Y)     5*0.,12686000.,12685000.,19*0.
NV  CTPF       7000.
NV  CTS(Y)     6*0.,149600000.,19*0.
NV  DC(Y)      5*0.,1040200.,102400.,190800.,144800.,17*0.
NV  DCH(Y)     0.,0.,1870000.,3465100.,10070000.,1490000.,20*0.
NV  DCF(Y)     2*0.,44400000.,81615000.,74335100.,26070000.,20*0.
NV  DCM(Y)     2*0.,16320000.,23851000.,26282500.,9257000.,20*0.
NV  DCPH(Y)    2*0.,6890000.,12040000.,10246000.,4128600.,20*0.
NV  DCPS       0.
NV  DCS(Y)     26*0.
NV  DCSF(Y)    2*0.,1032000.,1812600.,1709400.,632600.,20*0.
```

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NV  DCT(Y)      2*0,.[illegible],.[illegible],.2214000,.[illegible],.20*0.
NV  DCTE(Y)     2*0,.2*403400,.3954[illegible]0,.4284000,.1568000,.20*0.

NV  DCTS(Y)     2*0,.193000,.412000,.476900,.184000,.20*0.
NV  DCPH(Y)     2*0,.1032000,.1812600,.1704400,.626300,.20*0.
NV  DGTA(Y)     2*0,.540000,.2060000,.2284000,.920000,.20*0.
NV  DGTT(Y)     2*0,.240000,.704000,.666000,.180000,.20*0.
NV  ESC(Y)      26*0.
NV  EXSC(Y)     26*10000.
NV  FA(Y)       5*0,.1242600,.1862600,.1250000,.3*730000,.315000,.14*0.
NV  FM(Y)       26*0.
NV  FSA         36.75
NV  GF          0.
NV  GOM(11)     11*40000.
NV  GMC(10)     0,.4*30000,.0,.4*35000.
NV  HCC(Y)      6*0,.45000,.90000,.135000,.225000,.270000,.270000,.315000,.
NV  HCC(Y)      2*360000,.2*315000,.4*270000,.5*225000.
NV  TPS(Y)      6*0,.90000,.180000,.270000,.450000,.2*540000,.630000,.
NV  TPS(Y)      720000,.2*810000,.2*720000,.4*630000,.4*540000.
NV  MITS        160000.
NV  MEC(Y)      26*0.
NV  MECA(Y)     26*0.
NV  MLIC(Y)     26*0.
NV  MLOC(Y)     26*0.
NV  MOOC(Y)     26*120000.
NV  MOO4(Y)     26*240000.
NV  MS(2)       20000,.24000.
NV  MSO(1)      36000.
NV  MTOE(20)    5000,.4*20000,.5000,.14*20000.
NV  MTGO(11)    11*35000.
NV  NO(Y)       6*0,.1,.2,.1,.3,.1,.0,.2,.1,.1,.11*0.
NV  NC3(Y,2)    12*0,.2*36,.2*54,.2*90,.2*108,.2*126,.2*144,.4*162,.4*144,.
NV  NC3(Y,2)    10*126,10*108.
NV  NMED(Y)     6*0,.1,.3,.4,.7,.8,.8,.10,.11,.2*12,.2*11,.4*10,.4*9.
NV  NMES(Y)     6*0,.3*1,.5*2,.12*3.
NV  NMD(Y,2)    16*0,.2*60,.2*90,.2*150,.4*180,.2*210,.2*240,.4*270,.4*240,.
NV  NMD(Y,2)    8*210,.8*180.
NV  NMPA(Y,2)   12*0,.2*120,.2*180,.2*300,.4*360,.2*420,.2*480,.4*540,.
NV  NMPA(Y,2)   4*480,.8*420,.10*360.
NV  N[illegible](Y)   6*0,.1,.15,.20,.25,.4*36,.30,.24,.10*0.
NV  N[illegible](Y)   6*0,.1,.16,.36,.60,.94,.126,.157,.196,.208,.223,.213,.204,.
NV  N[illegible](Y)   135,.187,.179,.171,.164,.157,.150,.144.
NV  NOP(Y,1)    6*0,.5,.10,.15,.25,.2*30,.35,.40,.2*45,.2*40,.4*35,.4*30.
NV  NOP[illegible](Y,1)   6*0,.10,.20,.30,.50,.2*60,.70,.80,.2*90,.2*80,.4*70,.4*60.
NV  NP3(Y)      9*0,.1,.2,.4,.5,.7,.8,.9,.10,.2*9,.3*8,.3*7,.6.
NV  NSE(Y,1)    6*0,.1,.3,.4,.7,.2*9,.10,.11,.2*12,.2*11,.4*10,.4*9.
NV  NS[illegible]     9910.
NV  NSMS        3600.
NV  NSTA(Y,1)   6*0,.1,.3,.4,.7,.2*9,.10,.11,.2*12,.2*11,.4*10,.4*9.
NV  O[illegible](Y)   26*0.
NV  OT          36[illegible].
NV  P[illegible](2)   22000,.26000.
NV  PCCC(Y)     6*0,.10000,.30000,.60000,.70000,.2*80000,.100000,.
NV  PCCC(Y)     110000,.2*120000,.2*110000,.4*100000,4*90000.
NV  PAS(1)      36000.
NV  PESC(Y)     6*0,.20000,.60000,.80000,.140000,.2*160000,.200000,.220000,.
NV  PESC(Y)     2*240000,2*220000,.4*200000,.4*190000.
NV  PMG(Y)      6*0,.26800000,.19*0.
NV  POT(2)      1,.1.
NV  PSC(Y)      6*0,.20000,.60000,.90000,.140000,.2*160000,.200000,.220000,.
NV  PSC(Y)      2*240000,.2*220000,.4*200000,.4*190000.
NV  PTE(Y)      6*0,.21800000,.19*0.
NV  PIF         47.
NV  PTW         104.
NV  PWF         50000.
NV  PWFA        50000.
```
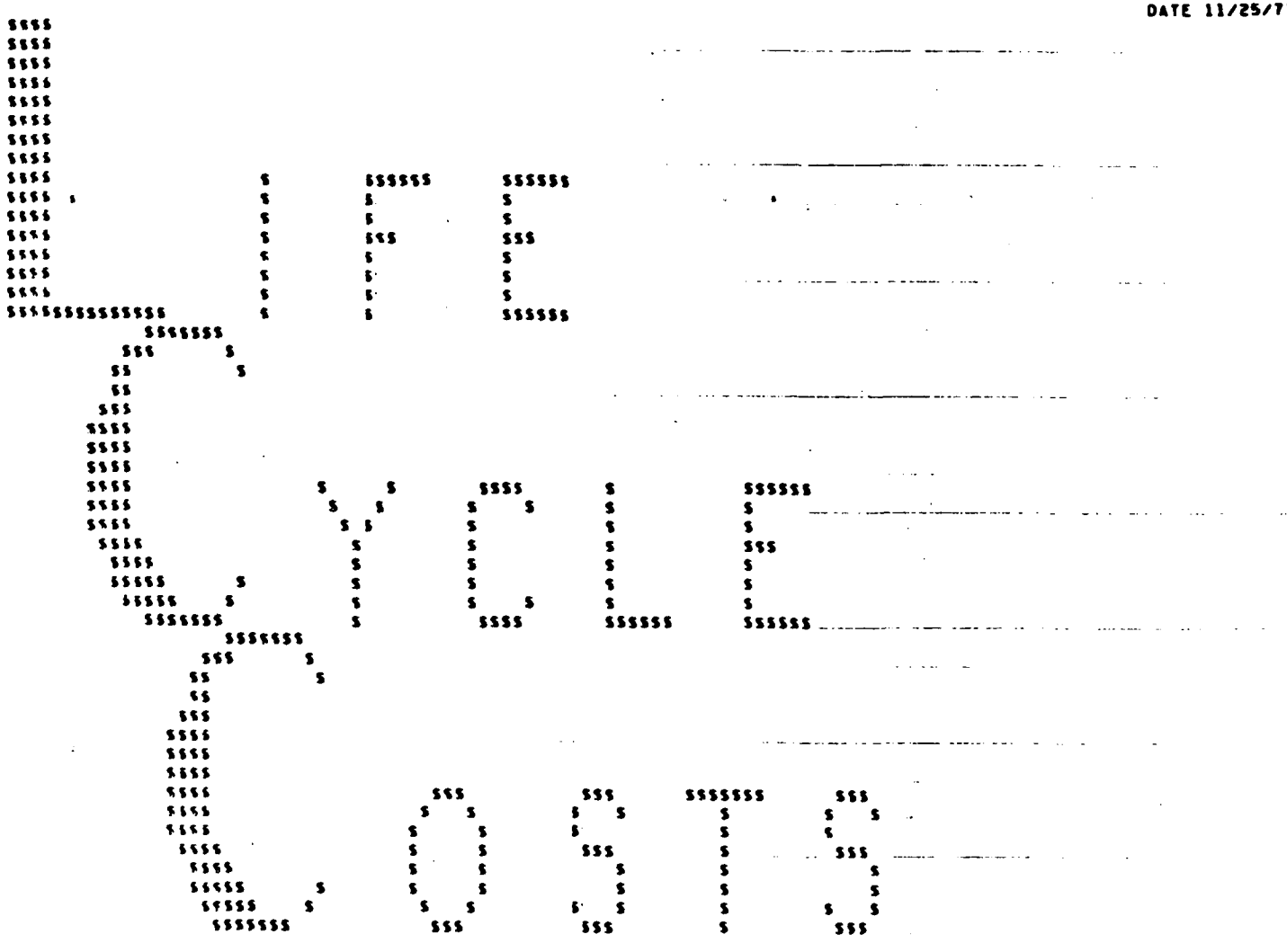

```
NV  PSSC(Y)     400.,661300.,1452500.,2232500.,2447500.,2862500.,3177500.,
NV  PSSC(Y)     4*3177500.,3020000.,2705000.,2232500.,6*2000000.
NV  PTSC(Y)     2400.
NV  PTSC(Y)     400.,19050000.,3.
NV  SC(Y)       2400.
NV  SS(Y)       500.,20000000.,2000.
NV  SSS         .95
NV  TAD         2000.
NV  TFD         0.
NV  TFSC(Y)     400.,1455600.,3447200.,1553600.,1546000.,1239000.,1587862.
NV  TPC(Y)      500.,1366000.,1366000.,1900.
NV  TPC(Y)      2400.
NV  TUIC(Y)     2400.
NV  TUOC(Y)     2400.
NV  TPS(Y)      2400.
NV  APS(Y)      700.,600000.,900000.,1500000.,2*1800000.,2100000.,2400000.,
NV  JPS(Y)      2*2700000.,2*2400000.,4*2100000.,4*1800000.
//SYSIN DD *
//
//
------ JES2 JOB STATISTICS ------

       539 CARDS READ

         0 SYSOUT PRINT RECORDS

         0 SYSOUT PUNCH RECORDS

       0.00 MINUTES EXECUTION TIME
```

C. Sample Output Report

The following pages contain an example of the types of Reports available from the computer program.

DATE 11/25/77



(LCC FLEX)

INPUT DATA LISTING AND ERROR DIAGNOSTICS

VV MODIFICATIONS

```
VV  F          1.                                                                    1
VV  R          2.                                                                    2
VV  W          1.                                                                    3
VV  U          2.                                                                    4
VV  O          1.                                                                    5
VV  Z          11.                                                                   6
VV  OO         10.                                                                   7
VV  FF         20.                                                                   8
VV  IYI        5.                                                                    9
VV  AA         12000000.                                                             10
VV  ACST(20)   20*500000.                                                            11
VV  AD1(Y)     5*0.,204242000.,728800.,134800.,968500.,17*0.                         12
VV  AD2(Y)     24064000.,58725000.,24*0.                                             13
VV  AD3(Y)     0.,302000.,24*0.                                                      14
VV  ADSC(20)   20*.006                                                               15
VV  AIIC(Y)    26*0.                                                                 16
VV  AIJC(Y)    26*0.                                                                 17
VV  ALB3(10)   0.,4*200.,0.,4*200.                                                   18
VV  ALR(11)    11*25.                                                                19
VV  AMAT(10)   0.,4*60.,0.,4*50.                                                     20
VV  AMTR(11)   11*60.                                                                21
VV  APSA(Y)    6*0.,3*1800003.,5*3600000.,12*5400000.                                22
VV  AQSE(Y)    5*0.,10260000.,1548000.,1008000.,3*504000.,252000.,14*0.              23
VV  ASE(Y)     5*0.,1026000.,1548000.,1008000.,3*504000.,252000.,14*0.               24
VV  ASEC(Y)    6*0.,15000.,33000.,45000.,75000.,2*90000.,105000.,120000.,            25
VV  ASEC(Y)    135000.,135000.,2*120000.,4*105000.,4*90000.                          26
VV  ATNS(11)   11*400.                                                               27
VV  ATRN(10)   0.,4*500.,0.,4*500.                                                   28
VV  BCM(10)    0.,4*.05,0.,4*.05                                                     29
VV  BOSC(Y)    6*0.,20000.,60300.,80000.,140000.,2*160000.,200000.,220000.,          30
VV  BOSC(Y)    2*240000.,2*220000.,4*200000,4*180000.                                31
VV  CIF(Y)     26*0.                                                                 32
VV  CIT(Y)     6*0.,21400000.,19*0.                                                  33
VV  CP4(Y)     6*0.,26800000.,19*0.                                                  34
VV  CSE(1)     30000000.                                                             35
VV  CSP3       33333333.                                                             36
VV  CSJ(Y)     5*0.,5880000.,7040000.,6440000.,5840000.,9010000.,4340000.,15*0.      37
VV  CTE(Y)     5*0.,12686000.,12686000.,19*0.                                        38
VV  CTPE       7000.                                                                 39
VV  CTS(Y)     6*0.,14940000.,19*0.                                                  40
VV  DC(Y)      5*0.,3040200.,102400.,199800.,166800.,17*0.                           41
VV  DC3(Y)     0.,0.,1478000.,3465000.,10070000.,1480000.,20*0.                      42
VV  DCE(Y)     2*0.,46400000.,81635000.,76335100.,26070000.,20*0.                    43
VV  DC4(Y)     2*0.,16320000.,28851000.,26282500.,9257000.,20*0.                     44
VV  DCP4(Y)    2*0.,6880000.,12040000.,10246003.,4128000.,20*0.                      45
VV  DCRS       0.                                                                    46
VV  DCS(Y)     26*0.                                                                 47
VV  DCSE(Y)    2*0.,1032000.,1812600.,1709400.,632630.,20*0.                         48
VV  DCT(Y)     2*0.,540000.,2060000.,2284000.,320000.,20*0.                          49
VV  DCTE(Y)    2*0.,20403400.,38540000.,42840030.,16680000.,20*0.                    50
```

INPUT DATA LISTING AND ERROR DIAGNOSTICS

NV MODIFICATIONS

```
 NV  DCTS(Y)     2*0.,108000.,412000.,476800.,184000.,20*0.                    51
 NV  DGPM(Y)     2*0.,1032000.,1812600.,1709400.,626300.,20*0.                 52
 NV  DGTA(Y)     2*0.,540000.,2060000.,2284000.,920000.,20*0.                  53
 NV  DGTT(Y)     2*0.,240000.,704000.,665000.,180000.,20*0.                    54
 NV  ESC(Y)      26*0.                                                         55
 NV  EXSC(Y)     25*10000.                                                     56
 NV  FA(Y)       5*0.,1242600.,1862600.,1260000.,3*730000.,315000.,14*0.       57
 NV  FM(Y)       26*0.                                                         58
 NV  FSA         36.75                                                         59
 NV  GF          0.                                                            60
 NV  GOM(11)     11*40000.                                                     61
 NV  GMC(10)     0.,,*30000.,,0.,,4*35000.                                     62
 NV  HCC(Y)      6*0.,,45000.,,90000.,,135000.,,225000.,,270000.,,270000.,,315000.,,  63
 NV  HCC(Y)      2*360000.,,2*315000.,,4*270000.,,5*225000.                    64
 NV  IPS(Y)      6*0.,,90000.,,180000.,,270000.,,450000.,,2*540000.,,630000.,,  65
 NV  IPS(Y)      720000.,,2*810000.,,2*720000.,,4*630000.,,6*540000.           66
 NV  MATS        160000.                                                       67
 NV  MFC(Y)      26*0.                                                         68
 NV  MFCA(Y)     26*0.                                                         69
 NV  MLIC(Y)     26*0.                                                         70
 NV  MLOC(Y)     26*0.                                                         71
 NV  MOOC(Y)     26*120000.                                                    72
 NV  MOOK(Y)     26*240000.                                                    73
 NV  MS(2)       20000.,,24900.                                                74
 NV  MSD(1)      34000.                                                        75
 NV  MTBF(20)    5000.,,4*20000.,,5000.,,14*20000.                             76
 NV  MTSD(11)    11*35000.                                                     77
 NV  NA(Y)       6*0.,,1.,,2.,,1.,,3.,,1.,,0.,,2.,,1.,,1.,,11*0.               78
 NV  NCR(Y,2)    12*0.,,2*36.,,2*54.,,2*90.,,2*108.,,2*126.,,2*144.,,4*162.,,4*144.,,  79
 NV  NCR(Y,2)    10*126.,10*108.                                               80
 NV  NMF2(Y)     6*0.,,1.,,3.,,4.,,7.,,8.,,8.,,10.,,11.,,2*12.,,2*11.,,4*10.,,4*9.,  81
 NV  NMFS(Y)     6*0.,,3*1.,,5*2.,,12*3.                                       82
 NV  NMP(Y,2)    14*0.,,2*60.,,2*90.,,2*150.,,4*180.,,2*210.,,2*240.,,4*270.,,4*240.,,  83
 NV  NMP(Y,2)    8*210.,,8*180.                                                84
 NV  NMPA(Y,2)   12*0.,,2*120.,,2*180.,,2*300.,,4*360.,,2*420.,,2*480.,,4*540.,,  85
 NV  NMPA(Y,2)   4*480.,,8*420.,,10*360.                                       86
 NV  NN(Y)       6*0.,,1.,,15.,,23.,,25.,,4*36.,,30.,,24.,,10*0.               87
 NV  NNN(Y)      6*0.,,1.,,16.,,35.,,60.,,94.,,126.,,157.,,186.,,208.,,223.,,213.,,204.,,  88
 NV  NNN(Y)      195.,,187.,,179.,,171.,,164.,,157.,,150.,,144.                89
 NV  NOP(Y,1)    6*0.,,5.,,10.,,15.,,25.,,2*30.,,35.,,40.,,2*45.,,2*40.,,4*35.,,4*30.,  90
 NV  NOPA(Y,1)   6*0.,,10.,,20.,,30.,,50.,,2*50.,,70.,,90.,,2*90.,,2*80.,,4*70.,,4*60.,  91
 NV  NPD(Y)      9*0.,,1.,,2.,,4.,,5.,,7.,,8.,,9.,,10.,,2*9.,,3*8.,,3*7.,,6.   92
 NV  NSE(Y,1)    6*0.,,1.,,3.,,4.,,7.,,2*8.,,10.,,11.,,2*12.,,2*11.,,4*10.,,4*9.,  93
 NV  NSN2        9000.                                                         94
 NV  NSNS        3600.                                                         95
 NV  NSTA(Y,1)   6*0.,,1.,,3.,,4.,,7.,,2*8.,,10.,,11.,,2*12.,,2*11.,,4*10.,,4*9.,  96
 NV  ODM(Y)      26*0.                                                         97
 NV  OT          350.                                                          98
 NV  PA(2)       22000.,,26000.                                                99
 NV  PACC(Y)     6*0.,,10000.,,30000.,,40000.,,70000.,,2*80000.,,100000.,,     100
```

INPUT DATA LISTING AND ERROR DIAGNOSTICS

NV MODIFICATIONS

```
 NV  PACC(Y)    110000.,2*120000.,2*110000.,4*100000.4*90000.                    101
 NV  PAS(1)     36000.                                                           102
 NV  PESC(Y)    6*0.,20000.,60000.,90000.,140000.,2*160000.,200000.,220000.,     103
 NV  PESC(Y)    2*240000.2*220000.,4*200000.,4*180000.                           104
 NV  PMS(Y)     6*0.,26800000.,19*0.                                             105
 NV  PDT(2)     1.,1.                                                            106
 NV  PSC(Y)     6*0.,20000.,60000.,90000.,140000.,2*160000.,200000.,220000.,     107
 NV  PSC(Y)     2*240000.,2*220000.,4*200000.,4*180000.                          108
 NV  PTE(Y)     6*0.,21800000.,19*0.                                             109
 NV  RIE        47.                                                              110
 NV  RIM        104.                                                             111
 NV  RMF        50000.                                                           112
 NV  RMFA       50000.                                                           113
 NV  RPMC(Y)    26*0.                                                            114
 NV  RSEC(Y)    6*0.,641300.,1502500.,2232500.,2547500.,2862500.,3177500.,       115
 NV  RSEC(Y)    4*33350.,3177500.,3020000.,2705000.,2232500.,6*2000000.          115
 NV  RTRE(Y)    26*0.                                                            117
 NV  RTRS(Y)    6*0.,19*50000.,0.                                                118
 NV  SA(Y)      26*0.                                                            119
 NV  SS(Y)      5*0.,20000000.,20*0.                                             120
 NV  SSS        .95                                                              121
 NV  TAJ        2000.                                                            122
 NV  TE34       0.                                                               123
 NV  TESC(Y)    6*0.,1655600.,3447200.,1553600.,1546900.,1239000.,15*7862.       124
 NV  TRE(Y)     5*0.,1386000.,1386000.,19*0.                                     125
 NV  TRF(Y)     25*0.                                                            126
 NV  TRSC(Y)    26*0.                                                            127
 NV  TRSC(Y)    26*0.                                                            128
 NV  TRS(Y)     26*0.                                                            129
 NV  APS(Y)     7*0.,600000.,900000.,1500000.,2*1800000.,2100000.,2400000.,      130
 NV  APS(Y)     2*2700000.2*2400000.,4*2100000.,4*1800000.                       131
```

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INPUT DATA LISTING AND ERROR DIAGNOSTICS

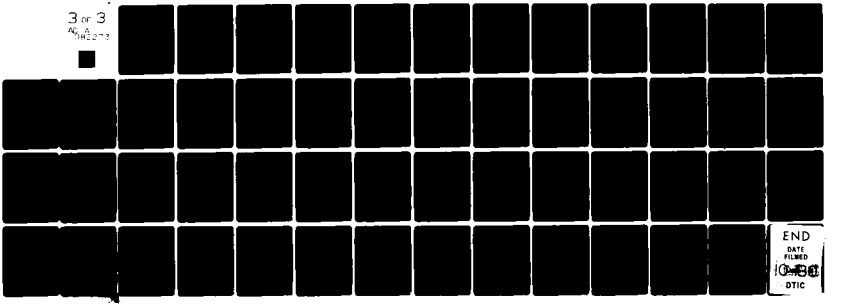
NAMELIST DATA

```
CM11111 11111110   0                                                          1
 &INPUT                                                                       2
 Y=26,9Y=1,                                                                   3
    IR3D=26*,04, IRPROC=26*,05, IRCON=26*,06,   IROH=26*,07,     OR=26*,10,  4
 &END                                                                         5
```

AD-A082 273 NAVAL WEAPONS ENGINEERING SUPPORT ACTIVITY WASHINGTON DC F/G 5/1
LIFE CYCLE COST GUIDE FOR MAJOR WEAPON SYSTEMS.(U)
NOV 77

UNCLASSIFIED NL

3 OF 3
AD A082273



INPUT DATA LISTING AND ERROR DIAGNOSTICS

*** INPUT STATISTICS ***
***** CARDS READ
0 ERRORS
STATISTICS 29 SCALARS 92 ARRAYS 2150 ARRAY ELEMENTS

INPUT DATA LISTING AND ERROR DIAGNOSTICS

CURRENT CS FILE

```
CS000000  LIFE CYCLE COST                                                    1
CS100000  RESEARCH AND DEVELOPMENT                                           2
CS110000  VALIDATION                                                         3
CS111000  CONTRACTOR                          1  1   1   1                  4
E3111000  ADC(I)$I.1.Y                                                       5
CS112000  GOVERNMENT                          2  1   1   1                  6
E3112000  AOS(I)$I.1.Y                                                      7
CS120000  FULL SCALE DEVELOPMENT                                             8
CS121000  CONTRACTOR                                                         9
CS121100  PROGRAM MANAGEMENT                  1  1   1   1                  10
E3121100  DCPM(I)$I.1.Y                                                     11
CS121200  ENGINEERING                         1  1   1   1                  12
E3121200  DCE(I)$I.1.Y                                                      13
CS121300  PROTOTYPE HARDWARE                  1  1   1   1                  14
E3121300  DCH(I)$I.1.Y                                                      15
CS121400  SOFTWARE                            1  1   1   1                  16
E3121400  DCS(I)$I.1.Y                                                      17
CS121500  INTEGRATION AND TEST                1  1   1   1                  18
E3121500  DCTE(I)$I.1.Y                                                     19
CS121600  DOCUMENTATION                       1  1   1   1                  20
E3121600  DCD(I)$I.1.Y                                                      21
CS122000  GOVERNMENT                                                         22
CS122100  PROJECT MANAGEMENT                  2  1   1   1                  23
E3122100  DGPM(I)$I.1.Y                                                     24
CS122200  SYSTEMS ENGINEERING                 2  1   1   1                  25
E3122200  DCSE(I)$I.1.Y                                                     26
CS122300  SYSTEM TEST AND EVALUATION                                         27
CS122310  TEST PERSONNEL AND TRAINING         3  1   1   1                  28
E3122310  DGTT(I)$I.1.Y                                                     29
CS122320  TEST SPARES                         3  1   1   1                  30
E3122320  DCTS(I)$I.1.Y                                                     31
CS122330  TEST AGE/TSE/TE                     3  1   1   1                  32
E3122330  DCT(I)$I.1.Y                                                      33
CS122340  TEST FACILITIES                     3  1   1   1                  34
E3122340  DGTA(I)$I.1.Y                                                     35
CS122400  FOREIGN MILITARY SALES              2  6   4   1                  36
E3122400  FM(I)$I.1.Y                                                      37
CS200000  INVESTMENT                                                         38
CS210000  ACQUISITION (CONTRACTOR)                                           39
CS211000  PRODUCTION HARDWARE                 4  2   2   1                  40
E3211000  AA.NN(I).*$I.1.Y                                                  41
CS212000  PECULIAR SUPPORT EQUIPMENT          8  2   2   1                  42
E3212000  NSE(I.C).CSE(C).*$C$1.0.I.1.Y                                     43
CS213000  TRAINING                            5  2   2   1                  44
E3213000  CTE(I).CTS(I).*$I.1.Y                                             45
CS214000  INTEGRATION AND TEST                4  2   2   1                  46
E3214000  CIT(I)$I.1.Y                                                      47
CS215000  PROGRAM MANAGEMENT                  2  2   2   1                  48
E3215000  CPM(I)$I.1.Y                                                      49
CS216000  DOCUMENTATION                       7  2   2   1                  50
```

INPUT DATA LISTING AND ERROR DIAGNOSTICS

CURRENT CS FILE

```
E0216000  AD(I)$I,1,Y                                                    51
CS217000  TECHNICAL SUPPORT                    4  2  2  1               52
E0217000  CSJ(I)$I,1,Y                                                   53
CS21A00A  INDUSTRIAL FACILITIES                4  2  2  1               54
E0218000  CIF(I)$I,1,Y                                                   55
CS219000  INITIAL SPARES AND REPAIR PARTS      6  2  2  1               56
E0219000  VR(I),CSPR,*,SS(I),*$I,1,Y                                    57
CS220000  GOVERNMENT                                                     58
CS221000  GFE/GFM                              6  2  2  1               59
E0221000  VN(I),GF,*$I,1,Y                                               60
CS222000  COMMON SUPPORT EQUIPMENT             8  4  4  1               61
E0222000  ASE(I),A2SE(I),*$I,1,Y                                         62
CS223000  TRAINING                             5  3  3  1               63
E0223000  TRE(I),TRS(I),*,TRTR(I),*$I,1,Y                               64
CS224000  SYSTEM TEST AND EVALUATION           3  2  2  1               65
E0224000  PTE(I)$I,1,Y                                                   66
CS225000  PROJECT MANAGEMENT                   2  2  2  1               67
E0225000  PM3(I)$I,1,Y                                                   68
CS226000  DOCUMENTATION                        7  2  2  1               69
E0226000  DC(I)$I,1,Y                                                    70
CS227000  SITE ACTIVATION                                                71
CS227100  OPERATIONAL SITES                    4  3  3  1               72
E0227100  SA(I)$I,1,Y                                                    73
CS227200  MAINTENANCE FACILITIES               4  3  3  1               74
E0227200  FA(I)$I,1,Y                                                    75
CS228000  SUPPLY INTRODUCTION                  6  4  4  1               76
E0228000  VSNP,VSNS,*,*BE,*$I,1YI,1YI                                    77
CS229000  TRANSPORTATION                       4  2  2  1               78
E0229000  VN(I),CTPE,*$I,1,Y                                            79
CS300000  OPERATING AND SUPPORT                                          80
CS310000  OPERATING                                                      81
CS311000  CREW                                 9  5  4  1               82
E0311000  VC4(I,A),PA(A),TAD,*,*$I,1,Y,A,1,B                            83
CS312000  STAFF                                9  5  4  1               84
E0312000  VSTA(I,E),PAS(E),*$E,1,F,1,1,Y                                 85
CS313000  MATERIAL                             9  4  4  1               86
E0313000  VMN(I),MATS,*$I,1,Y                                            87
CS314000  SECURITY                             9  5  4  1               88
E0314000  ASEC(I)$I,1,Y                                                  89
CS315000  OTHER DEPLOYED MANPOWER              9  5  4  1               90
E0315000  ODM(I)$I,1,Y                                                   91
CS316000  PERSONNEL SUPPORT                    9  4  4  1               92
E0316000  PSC(I)$I,1,Y                                                   93
CS320000  O/I MAINTENANCE ACTIVITY                                       94
CS321000  AFLOAT FACILITIES                                              95
CS321100  LAND                                                           96
CS321110  WEAPON SYSTEM MAINTENANCE            10  4  4  1               97
E0321110  VMP(I,T),MS(T),*,PJ#(T),*$T,1,U,1,1,Y                          98
CS321120  ORDNANCE MAINTENANCE                 10  4  4  1               99
E0321120  VOP(I,V),MSO(V),*$V,1,W,1,1,Y                                 100
```

INPUT DATA LISTING AND ERROR DIAGNOSTICS

CURRENT CS FILE

```
CS321200 MATERIAL                                  10  4  4  1                101
E2321200 MNN(I),RMF,*I,1,Y                                                    102
CS321300 PERSONNEL SUPPORT                         10  4  4  1                103
E2321300 APS(I)II,1,Y                                                         104
CS321400 SITE MAINTENANCE                          10  3  3  1                105
E2321400 MFC(I)II,1,Y                                                         106
CS322000 ASHORE FACILITIES                                                    107
CS322100 LABOR                                                                108
CS322110 WEAPON SYSTEM MAINTENANCE                 10  4  4  1                109
E2322110 MMPA(I,T),MS(I),*,POT(T),*IT,1,U,I,1,Y                               110
CS322120 ORDNANCE MAINTENANCE                      10  4  4  1                111
E2322120 MOPA(I,V),MSO(V),*II,1,Y,V,1,M                                       112
CS322200 MATERIAL                                  10  4  4  1                113
E2322200 MNN(I),RMFA,*II,1,Y                                                  114
CS322300 PERSONNEL SUPPORT                         10  4  4  1                115
E2322300 APSA(I)II,1,Y                                                        116
CS322400 SITE MAINTENANCE                          10  3  3  1                117
E2322400 MFCA(I)II,1,Y                                                        118
CS330000 INSTALLATION SUPPORT                                                 119
CS331000 BASE OPERATING SUPPORT                    10  3  3  1                120
E2331000 BOSC(I)II,1,Y                                                        121
CS332000 REAL PROPERTY MAINTENANCE                 10  3  3  1                122
E2332000 RPMC(I)II,1,Y                                                        123
CS333000 PERSONNEL SUPPORT                         10  3  3  1                124
E2333000 IPS(I)II,1,Y                                                         125
CS340000 DEPOT MAINTENANCE                                                    126
CS341000 SCHEDULED MAINTENANCE                     10  4  4  1                127
E2341000 MNN(I),OT,*,GOH(X),*,MTBO(X),/1X,1,Z,I,1,Y                           128
CS342000 UNSCHEDULED MAINTENANCE                   10  4  4  1                129
E2342000 MNN(I),OT,*,RCM(CC),*,GMC(CC),*,MTBF(CC),/ICC,1,DD,I,1,Y             130
CS343000 MODERNIZATION                             10  4  4  1                131
E2343000 MNN(I),MOC(I),*II,1,Y                                                132
CS344000 COMPONENT REPAIR                          10  4  4  1                133
E2344000 MNN(I),DCRS,*II,1,Y                                                  134
CS350000 DEPOT SUPPLY                                                         135
CS351000 MATERIAL MANAGEMENT                        7  4  4  1                135
E2351000 NSNP,NSNS,,,RIM,*,MMFP(I),NSNP,*,MMFS(I),NSNS,*,,,FSA,*,,II,1,Y      137
CS352000 TECHNICAL SUPPORT                         10  4  4  1                139
E2352000 TESC(I)II,1,Y                                                        139
CS360000 SECOND DESTINATION TRANSPORTATION                                    140
CS361000 SCHEDULED                                 10  4  4  1                141
E2361000 ATNS(X),ALR(X),,,AMR(X),,,OT,*,MNN(I),*,MTBO(X),/1X,1,Z,I,1,Y        142
CS362000 UNSCHEDULED                               10  4  4  1                143
E2362000 ATRN(CC),ALBR(CC),,,AMAT(CC),,,BCM(CC),*,OT,*,MNN(I),*,MTBF(CC),/I   144
E2362000 CC,1,DD,I,1,Y                                                        145
CS370000 PERSONNEL SUPPORT AND TRAINING                                       146
CS371000 INDIVIDUAL TRAINING                        5  2  2  1                147
E2371000 RTRE(I),RTRS(I),,II,1,Y                                              148
CS372000 HEALTH CARE                                9  4  4  1                149
E2372000 HCC(I)II,1,Y                                                         150
```

INPUT DATA LISTING AND ERROR DIAGNOSTICS

CURRENT CS FILE

```
CS373000  PERSONNEL ACTIVITIES                    9  5  4  1          151
E0373000  PACC(I)II,1,Y                                               152
CS374000  PERSONNEL SUPPORT                       9  4  4  1          153
E0374000  PESC(I)II,1,Y                                               154
CS380000  SUSTAINING INVESTMENTS                                      155
CS381000  REPLENTISHMENT SPARES                   6  2  2  1          156
E0381000  VNV(I),OI,*,ACST(EE),*,ADSC(EE),*,VT3F(EE),/EE,1,FF,I,1,Y   157
CS382000  MODIFICATIONS                           6  2  2  1          158
E0382000  VNV(I),MDC(I),*II,1,Y                                       159
CS383000  REPLENTISHMENT SUPPORT EQUIPMENT        8  2  2  1          160
E0383000  RSEC(I)II,1,Y                                               161
CS384000  EXPENDABLE STORES                       9  2  2  1          162
E0384000  VNV(I),EXSC(I),*II,1,Y                                      163
CS400000  ASSOCIATED SYSTEMS                                          164
CS410000  INVESTMENT                                                  165
CS411000  MOBILE LOGISTICS SUPPORT FORCE          10  2  2  1          166
E0411000  MLIC(I)II,1,Y                                               167
CS412000  TENDERS AND REPAIR SHIPS                10  2  2  1          168
E0412000  TRIC(I)II,1,Y                                               169
CS413000  ASHORE IMA                              10  3  3  1          170
E0413000  AIIC(I)II,1,Y                                               171
CS420000  OPERATING AND SUPPORT                                       172
CS421000  MOBILE LOGISTICS SUPPORT FORCE          9  4  4  1          173
E0421000  MLOC(I)II,1,Y                                               174
CS422000  TENDERS AND REPAIR SHIPS                9  4  4  1          175
E0422000  TROC(I)II,1,Y                                               176
CS423000  ASHORE IMA                              9  4  4  1          177
E0423000  AIOC(I)II,1,Y                                               178
CS424000  EMBARKED SYSTEMS                        9  4  4  1          179
E0424000  ESC(I)II,1,Y                                               180
CS500000  TERMINATION                             10  6  4  1          181
E0500000  VPO(I),TER,*II,1,Y                                          182
ENDCS                                                                 183
```

STATISTICS 658 EQUATION ELEMENTS READ

NAMES, DESCRIPTIONS, AND DIMENSIONS OF VARIABLES

Y	NUMBER OF YEARS IN LIFE CYCLE	&&<A- AA0 L0&L E-0&A0 AI0 BOLL 61$*OLL $1 ASG00<FRDSENS
BY	BASE YEAR	
IRRD	INFLATION RATE FOR R & D FUNDING	
IRPROC	INFLATION RATE FOR PROCURFMENT FUNDING	
IRCON	INFLATION RATE FOR CONSTRUCTION FUNDING	
IRO&M	INFLATION RATE FOR O & M FUNDING	
DR	DISCOUNT RATE	
IYI	YEAR I DURING WHICH INITIAL COSTS OCCUR	
NOCAT	NUMBER OF COST CATEGORIES	
F	NUMBER OF DIFFERENT GRADES OF COMMAND STAFF PERSONNEL	
A	NUMBER OF DIFFERENT GRADES OF CREW PERSONNEL	
W	NUMBER OF DIFFERENT GRADES OF PERSONNEL MAINTAINING THE ORDNANCE SYSTEMS	
M	NUMBER OF DIFFERENT GRADES OF PERSONNEL MAINTAINING THE WEAPON SYSTEM	
N	NUMBER OF DIFFERENT TYPES OF SUPPORT EQUIPMENT	
Z	NUMBER OF EQUIPMENTS IN THE WEAPON SYSTEM SUBJECTED TO DEPOT REWORK / OVERHAUL	
ND	NUMBER OF EQUIPMENTS IN THE WEAPON SYSTEM SUBJECTED TO DEPOT MAINTENANCE	
EE	NUMBER OF EQUIPMENTS IN THE WEAPON SYSTEM	
AA	FIRST PIECE COST OF WEAPON SYSTEM,($)	
ACST	AVERAGE COST OF ITEM PER DISCARD MAINTENANCE ACTION TO EACH EQUIPMENT,($/SCRAP ACTION)	
AD	DOCUMENTATION ACQUISITION COST DURING YEAR I,($/YR)	
ADC	PAYMENTS BY GOVT. TO CONTRACTORS FOR M&S VALIDATION EFFORT,($/YR)	
AD3	GOVT. EXPENDITURES FOR M&S VALIDATION EFFORT,($/YR)	
ADSC	AVERAGE SCRAP RATE OF ITEMS IN THE EACH EQUIPMENT,(SCRAP ACTIONS/FAILURE)	
AIIC	GOVT. EXPENDITURES FOR CONSTRUCTING,CONVERTING,ALTERING, OR MODIFYING SHORE FACILITIES,($/YR)	
AIOC	INCREMENTAL COSTS FOR OPERATING AND SUPPORT OF ASHORE I&S,($/YR)	
ALBB	AVG. 2 WAY PACKING LABOR COST FOR SHIPPING EQUIP. CC FAILED ITEMS BETWEEN INT. & DEPOT LEVEL FACILITIES,($/BCM)	
ALR	AVG. 2 WAY PACKING LABOR COST FOR SHIPPING EQUIP. X REWORK/OVERHAUL ITEMS BETWN INT & DEPOT LEVEL,($/(REWK/OVHAL))	
AMAT	AVG.PKG.MAT.COST FOR SHIPPING EQUIP.CC FAILED ITEMS BETWEEN INT.&DEPOT LEVEL FACILITIES,($/BCM)	
AMTR	AVG.PKG.MAT.COST FOR SHIPPING EQUIP.X REWORK/OVERHAUL ITEMS BETWEEN INT.&DEPOL LEVEL FACILITIES,($/(REWRK/OVHAL))	
APS	GOVT. EXPENDITURES FOR PERSONNEL SUPPORT AT AFLOAT FACILITIES,($/YR)	
APSA	GOVT. EXPENDITURES FOR PERSONNEL SUPPORT AT ASHORE FACILITIES,($/YR)	
ASE	GOVT. EXPENDITURES FOR ACQUISITION OF COMMON SUPPORT EQUIPMENT,($/YR)	
ASEC	GOVT. EXPENDITURES TO MAKE COMMON SUPPORT EQUIP. AVAILABLE FOR SUPPORT OF THE WEAPON SYSTEM,($/YR)	
SEC	SECURITY COST INCURRED DURING YEAR I,($/YR)	
AFNS	AVG. 2 WAY SHIPPING COST FOR SHIPPING EQIP.X REWORK/OVERHAUL ITEMS BETWEEN INT.&DEPOT LEVEL FACIL,($/(REWK/OVHAL))	
AFRN	AVG. 2 WAY SHIPPING COST FOR SHIPPING EQUIP.CC FAILED ITEMS BETWEEN INT.&DEPOT LEVEL FACILITIES,($/BCM)	
BCM	BEYOND CAPABILITY OF MAINTENANCE RATE OF EQUIPMENT CC,(RATIO)	
BOSC	GOVT. EXPENDITURES FOR BASE OPERATING SUPPORT,($/YR)	
CIF	GOVT. PAYMENTS TO CONTRACTORS FOR INDUSTRIAL FACILITIES,($/YR)	
CIT	GOVT. PAYMENTS TO CONTRACTOR FOR INTEGRATION AND TEST OF THE COMPLETE WEAPON SYSTEM,($/YR)	
CPM	GOVT. PAYMENTS TO CONTRACTOR FOR PROGRAM MANAGEMENT OF THE PRODUCTION UNITS,($/YR)	
CSE	ACQUISITION COST OF SUPPORT EQUIPMENT TYPE C,($/EQUIPMENT)	
CSPR	COST OF INITIAL SPARES AND REPAIR PARTS PER AIRCRAFT SUPPORTING BASE,($/BASE)	
CSPS	COST OF INITIAL SPARES AND REPAIR PARTS PER SHIP SYSTEM, ($/SYSTEM)	
CSJ	GOVT. PAYMENTS TO CONTRACTORS FOR TECHNICAL SUPPORT OF THE INVESTMENT PHASE,($/YR)	
CTE	COST OF CONTRACTOR TRAINING EQUIPMENT IN YEAR I,($/YR)	
CTDE	FIRST DESTINATION TRANSPORTATION COST FOR THE WEAPON SYSTEM,($/SYSTEM)	
CTS	COST OF CONTRACTOR SERVICES,($/YR)	
DL	GOVT.EXPENDITURES FOR STORING,REPRODUCING,PACKAGING, AND SHIPPING TECHNICAL AND MANAGERIAL DATA,($/YR)	
DCD	GOVT. PAYMENTS TO CONTRACTORS FOR DOCUMENTATION FOR THE FULL SCALE DEVELOPMENT EFFORT,($/YR)	
DCE	GOVT. PAYMENTS TO CONTRACTORS FOR ENGINEERING FOR THE FULL SCALE DEVELOPMENT EFFORT,($/YR)	
DCH	GOVT. PAYMENTS TO CONTRACTORS FOR PROTOTYPE HARDWARE FOR THE FULL SCALE DEVELOPMENT EFFORT,($/YR)	

NAMES, DESCRIPTIONS, AND DIMENSIONS OF VARIABLES

NCPM	GOVT. PAYMENTS TO CONTRACTORS FOR PROGRAM MANAGEMENT FOR THE FULL SCALE DEVELOPMENT EFFORT.($/YR)
NCRS	DEPOT LABOR AND MATERIAL COST PER SHIP PER YEAR FOR COMPONENT REPAIR.($/SHIP/YR)
NCS	GOVT. PAYMENTS TO CONTRACTORS FOR DEVELOPMENT OF SOFTWARE FOR THE FULL SCALE DEVELOPMENT EFFORT.($/YR)
NCSE	GOVT. EXPENDITURES FOR SYSTEMS ENGINEERING FOR FULL SCALE DEVELOPMENT EFFORT.($/YR)
NCT	GOVT. EXPENDITURES FOR ASE/GSE/TE IN SUPPORT OF THE T&E PROGRAM DURING FULL SCALE DEVELOPMENT PHASE.($/YR)
NCTE	GOVT. PAYMENTS TO CONTRACTORS FOR INTEGRATING AND TESTING WEAPON SYSTEM FOR FULL SCALE DEVELOPMENT EFFORT.($/YR)
NCTS	GOVT. EXPENDITURES FOR TEST SPARES FOR THE FULL SCALE DEVELOPMENT EFFORT.($/YR)
NGPM	GOVT. EXPENDITURES FOR PROJECT MANAGEMENT FOR THE FULL SCALE DEVELOPMENT EFFORT.($/YR)
NSTA	GOVT. COSTS FOR TEST SITE ACTIVATION/DEACTIVATION DURING FULL SCALE DEVELOPMENT T&E PROGRAM.($/YR)
NSTF	GOVT. EXPENDITURES FOR TEST PERSONNEL AND TRAINING COST FOR THE FULL SCALE DEVELOPMENT EFFORT.($/YR)
PSC	PRO RATA SHARE OF OPERATING AND SUPPORT COSTS OF EMBARKED SYSTEMS.($/YR)
PSSC	STORES COST PER WEAPON SYSTEM DURING YEAR I.($/SYSTEM)
PA	GOVT. EXPENDITURES FOR MAINTENANCE FACILITY ACTIVATION ($/YR)
PM	GOVT. RECEIPTS FROM FOREIGN MILITARY SALES OF PREVIOUSLY DEVELOPED WEAPON SYSTEMS TO DEFRAY R&D COST OF NWS.($/YR)
PSA	FIELD SUPPLY ADMINISTRATION COST OF THE NSN.($/NSN/SITE/YR)
QF	COST OF SFE/SPM PER WEAPON SYSTEM.($/SYSTEM)
RDX	DEPOT REWORK/OVERHAUL COST FOR EQUIPMENT X.($/(REWORK/OVERHAUL))
RMC	DEPOT REPAIR MATERIAL AND LABOR COST FOR EQUIPMENT CC.($/FAILURE)
RCC	GOVT. EXPENDITURES FOR HEALTH CARE.($/YR)
RPS	GOVT. EXPENDITURES FOR INSTALLATION PERSONNEL SUPPORT.($/YR)
MATS	MATERIAL COST PER SYSTEM PER YEAR.($/SYSTEM)
MFC	GOVT. EXPENDITURES FOR MAINTENANCE OF THE AFLOAT FACILITIES.($/YR)
MFCA	GOVT. EXPENDITURES FOR MAINTENANCE OF THE ASHORE FACILITIES ($/YR)
MLIC	GOVT. EXPENDITURES FOR CONSTRUCTING, CONVERTING, ALTERING OR MODIFYING THE MLSF.($/YR)
MLOC	INCREMENTAL COSTS FOR OPERATING AND SUPPORT OF THE MLSF.($/YR)
MODC	MODERNIZATION COST PER WEAPON SYSTEM DURING YEAR I.($/SYSTEM)
MODX	MODIFICATION COST PER WEAPON SYSTEM DURING YEAR I.($/SYSTEM)
MS	UNIT PAY AND ALLOWANCES OF GRADE I PERSONNEL.($/MAN)
MSO	UNIT PAY AND ALLOWANCES OF GRADE V PERSONNEL.($/MAN)
MTBF	MEAN TIME BETWEEN FAILURES OF THE CCTH EQUIPMENT.(HRS/FAILURE)
MTBO	MEAN TIME BETWEEN DEPOT REWORK/OVERHAUL OF THE XTH EQUIPMENT.(HRS/(REWORK/OVERHAUL))
NB	NUMBER OF NEWLY INTRODUCED BASES SUPPORTING AIRCRAFT DURING YEAR I.(BASES)
NCR	TOTAL NUMBER OF CREW PERSONNEL OF GRADE A IN YEAR I.(MEN)
NFAS	NUMBER OF MAINTENANCE FACILITIES SERVICING THE MAJOR WEAPON SYSTEM IN YEAR I.(SITES)
NMFS	NUMBER OF MAINTENANCE FACILITIES SERVICING SUPPORT SYSTEMS OF THE MAJOR WEAPON SYSTEM IN YEAR I.(SITES)
NMP	NUMBER OF PERSONNEL OF GRADE I AT AFLOAT FACILITIES MAINTAINING THE WEAPON SYSTEM.(MEN/GRADE/YR)
NMPA	NUMBER OF PERSONNEL OF GRADE I AT ASHORE FACILITIES MAINTAINING THE WEAPON SYSTEM.(MEN/GRADE/YR)
NN	NUMBER OF WEAPON SYSTEMS INTRODUCED INTO INVENTORY DURING YEAR I.(SYSTEM/YR)
NNN	NUMBER OF WEAPON SYSTEMS IN INVENTORY DURING YEAR I.(SYSTEMS)
NOP	NUMBER OF PERSONNEL OF GRADE V AT AFLOAT FACILITIES MAINTAINING ORDNANCE SYSTEMS.(MEN/GRADE/YR)
NOPA	NUMBER OF PERSONNEL OF GRADE V AT ASHORE FACILITIES MAINTAINING ORDNANCE SYSTEMS.(MEN/GRADE/YR)
NPO	NUMBER OF WEAPON SYSTEMS PHASED OUT DURING YEAR I.(SYSTEMS/YR)
NSE	TOTAL POPULATION OF SUPPORT EQUIPMENTS OF TYPE C.(EQUIPMENTS/YR)
NSNS	NUMBER OF NEW NSNS INTRODUCED INTO SUPPLY SYSTEM BY THE MAJOR WEAPON SYSTEM.(NSNS)
NSNS	NUMBER OF NEW NSNS INTRODUCED INTO SUPPLY SYSTEM BY SUPPORT SYSTEMS OF THE MAJOR WEAPON SYSTEM.(NSNS)
NSTA	TOTAL NUMBER OF COMMAND STAFF PERSONNEL OF GRADE E IN YEAR I.(MEN)
ODM	GOVT. EXPENDITURES IN YEAR I FOR OTHER DEPLOYED MANPOWER.($/YR)
OT	ANNUAL OPERATING TIME OF THE WEAPON SYSTEM.(HRS/SYSTEM/YR)
PA	ANNUAL PAY AND ALLOWANCES PER MAN OF GRADE A.($/MAN)
PACC	GOVT. EXPENDITURES FOR PERSONNEL ACTIVITIES.($/YR)
PAS	ANNUAL PAY AND ALLOWANCES PER MAN OF GRADE E.($/MAN)
PESC	GOVT. EXPENDITURES FOR PERSONNEL SUPPORT.($/YR)

NAMES, DESCRIPTIONS, AND DIMENSIONS OF VARIABLES

#48	GOVT. PROJECT MANAGEMENT COST.($/YR)
#BT	PROPORTION OF TIME PERSONNEL OF GRADE T ARE DEDICATED TO #EAPON SYSTEM.(RATIO)
#SC	GOVT. EXPENDITURES FOR PERSONNEL SUPPORT.($/YR)
#TE	TEST AND EVALUATION COSTS INCURRED DURING YEAR I.($/YR)
#IE	AVERAGE NSN ENTRY COST INTO THE SUPPLY SYSTEM.($/NSN)
#IR	AVERAGE NSN RETENTION COST IN THE SUPPLY SYSTEM.($/NSN)
#4F	REPAIR MATERIAL COST AT AFLOAT FACILITY PER SYSTEM PER YEAR.($/SYSTEM)
#4FA	REPAIR MATERIAL COST AT ASHORE FACILITY PER SYSTEM PER YEAR.($/SYSTEM)
#PMC	GOVT. EXPENDITURES FOR REAL PROPERTY MAINTENANCE.($/YR)
#SEC	GOVT. EXPENDITURES FOR REPLENISHMENT SUPPORT EQUIPMENT.($/YR)
#TRE	GOVT. EXPENDITURES FOR REPLACEMENT TRAINING EQUIPMENT.($/YR)
#TRS	GOVT. EXPENDITURES FOR TRAINING SERVICES FOR PERSONNEL REPLACING THOSE LOST THROUGH ATTRITION.($/YR)
#A	GOVT. EXPENDITURES FOR OPERATIONAL SITE ACTIVATION.($/YR)
#S	COST OF SYSTEM STOCK FOR YEAR I.($)
#SS	SLOPE OF LEARNING CURVE.(RATIO)
TAD	ANNUAL TEMPORARY ASSIGNMENT OF DUTY COST PER MEMBER OF CREW.($/MAN)
TERM	MAJOR #EAPON SYSTEM TERMINAL COST/VALUE(+/-$/SYSTEM)
TESC	GOVT. EXPENDITURES FOR TECHNICAL SUPPORT.($/YR)
TRE	GOVT. EXPENDITURES FOR TRAINING EQUIPMENT.($/YR)
TRF	GOVT. EXPENDITURES FOR TRAINING FACILITIES.($/YR)
TRIC	GOVT. EXPENDITURES FOR CONSTRUCTING,CONVERTING, ALTERING, OR MODIFYING TENDERS AND REPAIR SHIPS.($/YR)
TRIO	INCREMENTAL COSTS FOR OPERATING AND SUPPORT OF THE TENDER AND REPAIR SHIPS.($/YR)
TRS	GOVT. EXPENDITURES FOR TRAINING SERVICES.($/YR)

DATE 11/25/77 WEAPON SYSTEM LCC TEST RUN PAGE 3.001

NO REMARKS

* * * INPUT DATA - SCALARS * * *

NAME		DESCRIPTION
BY	1.00	BASE YEAR
NOCAT	10.00	NUMBER OF COST CATEGORIES
Y	26.00	NUMBER OF YEARS IN LIFE CYCLE
F	1.00	NUMBER OF DIFFERENT GRADES OF COMMAND STAFF PERSONNEL
A	2.00	NUMBER OF DIFFERENT GRADES OF CREW PERSONNEL
W	1.00	NUMBER OF DIFFERENT GRADES OF PERSONNEL MAINTAINING THE ORDNANCE SYSTEMS
U	2.00	NUMBER OF DIFFERENT GRADES OF PERSONNEL MAINTAINING THE WEAPON SYSTEM
D	1.00	NUMBER OF DIFFERENT TYPES OF SUPPORT EQUIPMENT
Z	11.00	NUMBER OF EQUIPMENTS IN THE WEAPON SYSTEM SUBJECTED TO DEPOT REWORK / OVERHAUL
ND	10.00	NUMBER OF EQUIPMENTS IN THE WEAPON SYSTEM SUBJECTED TO DEPOT MAINTENANCE
EE	20.00	NUMBER OF EQUIPMENTS IN THE WEAPON SYSTEM
IYI	5.00	YEAR I DURING WHICH INITIAL COSTS OCCUR
AA	12,000,000.00	FIRST PIECE COST OF WEAPON SYSTEM.($)
CSPB	33,333,333.00	COST OF INITIAL SPARES AND REPAIR PARTS PER AIRCRAFT SUPPORTING BASE.($/BASE)
CTPE	7,000.00	FIRST DESTINATION TRANSPORTATION COST FOR THE WEAPON SYSTEM.($/SYSTEM)
DCRS	0.00	DEPOT LABOR AND MATERIAL COST PER SHIP PER YEAR FOR COMPONENT REPAIR.($/SHIP/YR)

* * * INPUT DATA - SCALARS * * *

NAME		DESCRIPTION
FSA	36.75	FIELD SUPPLY ADMINISTRATION COST OF THE WSN.($/NSN/SITE/YR)
AF	0.00	COST OF AFE/AFH PER WEAPON SYSTEM.($/SYSTEM)
MATS	160,000.00	MATERIAL COST PER SYSTEM PER YEAR.($/SYSTEM)
NSNS	9,000.00	NUMBER OF NEW WSNS INTRODUCED INTO SUPPLY SYSTEM BY THE MAJOR WEAPON SYSTEM.(WSNS)
NSNS	3,600.00	NUMBER OF NEW WSNS INTRODUCED INTO SUPPLY SYSTEM BY SUPPORT SYSTEMS OF THE MAJOR WEAPON SYSTEM.(WSNS)
OT	360.00	ANNUAL OPERATING TIME OF THE WEAPON SYSTEM.(HRS/SYSTEM/YR)
RIE	47.00	AVERAGE WSN ENTRY COST INTO THE SUPPLY SYSTEM.($/NSN)
RIW	104.00	AVERAGE WSN RETENTION COST IN THE SUPPLY SYSTEM.($/WSN)
RMF	50,000.00	REPAIR MATERIAL COST AT AFLOAT FACILITY PER SYSTEM PER YEAR.($/SYSTEM)
RMFA	50,000.00	REPAIR MATERIAL COST AT ASHORE FACILITY PER SYSTEM PER YEAR.($/SYSTEM)
SSS	0.95	SLOPE OF LEARNING CURVE.(RATIO)
TAD	2,000.00	ANNUAL TEMPORARY ASSIGNMENT OF DUTY COST PER MEMBER OF CREW.($/MAN)
TERM	0.00	MAJOR WEAPON SYSTEM TERMINAL COST/VALUE.(+/-$/SYSTEM)

* * * INPUT DATA - ARRAYS * * *

NAME		DESCRIPTION									
DR	(26)	DISCOUNT RATE									
	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	
	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	
	0.10	0.10	0.10	0.10	0.10	0.10					
IRRD	(26)	INFLATION RATE FOR R & D FUNDING									
	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
	0.04	0.04	0.04	0.04	0.04	0.04					
IRPROC	(26)	INFLATION RATE FOR PROCUREMENT FUNDING									
	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
	0.05	0.05	0.05	0.05	0.05	0.05					
IRCON	(26)	INFLATION RATE FOR CONSTRUCTION FUNDING									
	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	
	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	
	0.06	0.06	0.06	0.06	0.06	0.06					
IROM	(26)	INFLATION RATE FOR O & M FUNDING									
	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	
	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	
	0.07	0.07	0.07	0.07	0.07	0.07					
ACST	(20)	AVERAGE COST OF ITEM PER DISCARD MAINTENANCE ACTION TO EETH EQUIPMENT.($/SCRAP ACTION)									
500,000.00		500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	
500,000.00		500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	500,000.00	
AD	(26)	DOCUMENTATION ACQUISITION COST DURING YEAR 1.($/YR)									
	0.00	0.00	0.00	0.00	0.00		728,800.00	134,800.00	968,500.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00					
ADC	(26)	PAYMENTS BY GOVT. TO CONTRACTORS FOR HWS VALIDATION EFFORT.($/YR)									
26,864,000.00		58,725,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00		0.00	0.00	0.00	0.00	0.00					
AD3	(26)	GOVT. EXPENDITURES FOR HWS VALIDATION EFFORT.($/YR)									
0.00		502,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00		0.00	0.00	0.00	0.00	0.00					
ADSC	(20)	AVERAGE SCRAP RATE OF ITEMS IN THE EETH EQUIPMENT.(SCRAP ACTIONS/FAILURE)									
0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

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* * * INPUT DATA - ARRAYS * * *

NAME		DESCRIPTION									
AIIC	(26)	GOVT. EXPENDITURES FOR CONSTRUCTING,CONVERTING,ALTERING, OR MODIFYING SHORE FACILITIES.($/YR)									
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00					
AIOC	(26)	INCREMENTAL COSTS FOR OPERATING AND SUPPORT OF ASHORE IMAS.($/YR)									
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00					
ALBR	(10)	AVG. 2 WAY PACKING LABOR COST FOR SHIPPING EQUIP. OF FAILED ITEMS BETWEEN INT. & DEPOT LEVEL FACILITIES.($/BCM)									
	0.00	200.00	200.00	200.00	200.00	0.00	200.00	200.00	200.00	200.00	
ALR	(11)	AVG. 2 WAY PACKING LABOR COST FOR SHIPPING EQUIP. OF REWORK/OVERHAUL ITEMS RETURN INT & DEPOT LEVELS($/(REWK/OVHAL))									
	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	
	25.00										
AMAT	(10)	AVG.PKG.MAT.COST FOR SHIPPING EQUIP.OF FAILED ITEMS BETWEEN INT.&DEPOT LEVEL FACILITIES.($/BCM)									
	0.00	60.00	60.00	60.00	60.00	0.00	60.00	60.00	60.00	60.00	
AMTR	(11)	AVG.PKG.MAT.COST FOR SHIPPING EQUIP.OF REWORK/OVERHAUL ITEMS BETWEEN INT.&DEPOT LEVEL FACILITIES.($/(REWRK/OVHAL))									
	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	
	60.00										
APSA	(26)	GOVT. EXPENDITURES FOR PERSONNEL SUPPORT AT ASHORE FACILITIES.($/YR)									
	0.00	0.00	0.00	0.00	0.00	0.00	1,800,000.00	1,800,000.00	1,800,000.00	3,600,000.00	
	3,600,000.00	3,600,000.00	3,600,000.00	3,600,000.00	5,400,000.00	5,400,000.00	5,400,000.00	5,400,000.00	5,400,000.00	5,400,000.00	
	5,400,000.00	5,400,000.00	5,400,000.00	5,400,000.00	5,400,000.00	5,400,000.00					
APSE	(26)	GOVT. EXPENDITURES FOR ACQUISITION OF COMMON SUPPORT EQUIPMENT.($/YR)									
	0.00	0.00	0.00	0.00	0.00	10,260,000.00	15,480,000.00	10,080,000.00	5,040,000.00	5,040,000.00	
	5,040,000.00	2,520,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00					
ASE	(26)	GOVT. EXPENDITURES TO MAKE COMMON SUPPORT EQUIP. AVAILABLE FOR SUPPORT OF THE WEAPON SYSTEM.($/YR)									
	0.00	0.00	0.00	0.00	0.00	1,026,000.00	1,548,000.00	1,008,000.00	504,000.00	504,000.00	
	504,000.00	252,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00					
ASEC	(26)	SECURITY COST INCURRED DURING YEAR I.($/YR)									
	0.00	0.00	0.00	0.00	0.00	0.00	15,000.00	30,000.00	45,000.00	75,000.00	
	90,000.00	90,000.00	105,000.00	120,000.00	135,000.00	135,000.00	120,000.00	120,000.00	105,000.00	105,000.00	
	105,000.00	105,000.00	90,000.00	90,000.00	90,000.00	90,000.00					
ATVS	(11)	AVG. 2 WAY SHIPPING COST FOR SHIPPING EQIP.OF REWORK/OVERHAUL ITEMS BETWEEN INT.&DEPOT LEVEL FACIL($/(REWK/OVHAL))									
	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	400.00	
	400.00										

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NAME		DESCRIPTION									
ATRN	(10)	AVG. 2 WAY SHIPPING COST FOR SHIPPING EQUIP.CC FAILED ITEMS BETWEEN INT.&DEPOT LEVEL FACILITIES.($/SCH)									
	0.00	500.00	500.00	500.00	500.00	0.00	500.00	500.00	500.00	500.00	
BCM	(10)	BEYOND CAPABILITY OF MAINTENANCE RATE OF EQUIPMENT CC% (RATIO)									
	0.00	0.05	0.05	0.05	0.05	0.00	0.05	0.05	0.05	0.05	
BOSC	(26)	GOVT. EXPENDITURES FOR BASE OPERATING SUPPORT.($/YR)									
	0.00	0.00	0.00	0.00	0.00	0.00	20,000.00	60,000.00	80,000.00	140,000.00	
	160,000.00	160,000.00	200,000.00	220,000.00	240,000.00	240,000.00	220,000.00	220,000.00	200,000.00	200,000.00	
	200,000.00	200,000.00	180,000.00	180,000.00	180,000.00	180,000.00					
CIF	(26)	GOVT. PAYMENTS TO CONTRACTORS FOR INDUSTRIAL FACILITIES.($/YR)									
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00					
CIT	(26)	GOVT. PAYMENTS TO CONTRACTOR FOR INTEGRATION AND TEST OF THE COMPLETE WEAPON SYSTEM.($/YR)									
	0.00	0.00	0.00	0.00	0.00	0.00	21,000,000.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00					
CPM	(26)	GOVT. PAYMENTS TO CONTRACTOR FOR PROGRAM MANAGEMENT OF THE PRODUCTION UNITS.($/YR)									
	0.00	0.00	0.00	0.00	0.00	0.00	26,000,000.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00					
CSE	(1)	ACQUISITION COST OF SUPPORT EQUIPMENT TYPE C.($/EQUIPMENT)									
30,000,000.00											
CSJ	(26)	GOVT. PAYMENTS TO CONTRACTORS FOR TECHNICAL SUPPORT OF THE INVESTMENT PHASE.($/YR)									
	0.00	0.00	0.00	0.00	0.00	5,000,000.00	7,040,000.00	6,440,000.00	5,040,000.00	9,010,000.00	
	4,340,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00					
CTE	(26)	COST OF CONTRACTOR TRAINING EQUIPMENT IN YEAR I.($/YR)									
	0.00	0.00	0.00	0.00	0.00	12,686,000.00	12,686,000.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00					
CTS	(26)	COST OF CONTRACTOR SERVICES.($/YR)									
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00					
DC	(26)	GOVT.EXPENDITURES FOR STORING,REPRODUCING,PACKAGING, AND SHIPPING TECHNICAL AND MANAGERIAL DATA.($/YR)									
	0.00	0.00	0.00	0.00	0.00	3,888,288.00	102,400.00	189,800.00	146,800.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00					

• READ ARRAY VALUES FROM LEFT TO RIGHT •

* * * INPUT DATA - ARRAYS * * *

NAME		DESCRIPTION								
NCD	(26)	GOVT. PAYMENTS TO CONTRACTORS FOR DOCUMENTATION FOR THE FULL SCALE DEVELOPMENT EFFORT.($/YR)								
	0.00	0.00	1,870,000.00	3,465,000.00	10,070,000.00	1,480,000.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
NCE	(26)	GOVT. PAYMENTS TO CONTRACTORS FOR ENGINEERING FOR THE FULL SCALE DEVELOPMENT EFFORT.($/YR)								
	0.00	0.00	46,400,000.00	81,635,000.00	74,335,100.00	26,070,000.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
NCH	(26)	GOVT. PAYMENTS TO CONTRACTORS FOR PROTOTYPE HARDWARE FOR THE FULL SCALE DEVELOPMENT EFFORT.($/YR)								
	0.00	0.00	16,320,000.00	28,851,000.00	26,282,500.00	9,257,000.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
NCPM	(26)	GOVT. PAYMENTS TO CONTRACTORS FOR PROGRAM MANAGEMENT FOR THE FULL SCALE DEVELOPMENT EFFORT.($/YR)								
	0.00	0.00	6,880,000.00	12,040,000.00	10,246,000.00	4,128,000.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
NCS	(26)	GOVT.PAYMENTS TO CONTRACTORS FOR DEVELOPMENT OF SOFTWARE FOR THE FULL SCALE DEVELOPMENT EFFORT.($/YR)								
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
NCSE	(26)	GOVT. EXPENDITURES FOR SYSTEMS ENGINEERING FOR FULL SCALE DEVELOPMENT EFFORT.($/YR)								
	0.00	0.00	1,032,000.00	1,812,600.00	1,709,400.00	632,600.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
NCT	(26)	GOVT.EXPENDITURES FOR AGE/ASE/TE IN SUPPORT OF THE TLE PROGRAM DURING FULL SCALE DEVELOPMENT PHASE.($/YR)								
	0.00	0.00	540,000.00	2,060,000.00	2,284,000.00	820,800.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
NCTE	(26)	GOVT.PAYMENTS TO CONTRACTORS FOR INTEGRATING AND TESTING WEAPON SYSTEM FOR FULL SCALE DEVELOPMENT EFFORT.($/YR)								
	0.00	0.00	20,403,400.00	36,540,000.00	42,840,000.00	16,680,000.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
NCTS	(26)	GOVT.EXPENDITURES FOR TEST SPARES FOR THE FULL SCALE DEVELOPMENT EFFORT.($/YR)								
	0.00	0.00	103,000.00	412,000.00	476,800.00	184,000.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
NDPM	(26)	GOVT.EXPENDITURES FOR PROJECT MANAGEMENT FOR THE FULL SCALE DEVELOPMENT EFFORT.($/YR)								
	0.00	0.00	1,032,000.00	1,812,600.00	1,709,400.00	626,300.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				

* READ ARRAY VALUES FROM LEFT TO RIGHT *

* * * INPUT DATA - ARRAYS * * *

* READ ARRAY VALUES FROM LEFT TO RIGHT *

NAME		DESCRIPTION								
DDTA	(26)	GOVT. COSTS FOR TEST SITE ACTIVATION/DEACTIVATION DURING FULL SCALE DEVELOPMENT T&E PROGRAM.($/YR)								
	0.00	0.00	540,000.00	2,868,000.00	2,284,000.00	920,000.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
DDTT	(26)	GOVT. EXPENDITURES FOR TEST PERSONNEL AND TRAINING COST FOR THE FULL SCALE DEVELOPMENT EFFORT.($/YR)								
	0.00	0.00	240,000.00	704,000.00	666,000.00	180,000.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
ESC	(26)	PRO RATA SHARE OF OPERATING AND SUPPORT COSTS OF EMBARKED SYSTEMS.($/YR)								
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
FASC	(26)	STORES COST PER WEAPON SYSTEM DURING YEAR I.($/SYSTEM)								
	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00
	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00
	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00	10,000.00				
FA	(26)	GOVT. EXPENDITURES FOR MAINTENANCE FACILITY ACTIVATION ($/YR)								
	0.00	0.00	0.00	0.00	0.00	1,242,600.00	1,862,600.00	1,260,000.00	730,000.00	730,000.00
	730,000.00	315,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
FR	(26)	GOVT.RECEIPTS FROM FOREIGN MILITARY SALES OF PREVIOUSLY DEVELOPED WEAPON SYSTEMS.TO DEFRAY RLD COST OF WWS.($/YR)								
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
RDH	(11)	DEPOT REWORK/OVERHAUL COST FOR EQUIPMENT X.($/(REWORK/OVERHAUL))								
	40,000.00	40,000.00	40,000.00	40,000.00	40,000.00	40,000.00	40,000.00	40,000.00	40,000.00	40,000.00
	40,000.00									
RMC	(10)	DEPOT REPAIR MATERIAL AND LABOR COST FOR EQUIPMENT CC($/FAILURE)								
	0.00	30,000.00	30,000.00	30,000.00	30,000.00	0.00	35,500.00	35,000.00	35,000.00	35,000.00
MCC	(26)	GOVT. EXPENDITURES FOR HEALTH CARE.($/YR)								
	0.00	0.00	0.00	0.00	0.00	0.00	45,000.00	90,000.00	135,000.00	225,000.00
	270,000.00	270,000.00	315,000.00	360,000.00	360,000.00	315,000.00	315,000.00	270,000.00	270,000.00	270,000.00
	270,000.00	225,000.00	225,000.00	225,000.00	225,000.00	225,000.00				
TPS	(26)	GOVT. EXPENDITURES FOR INSTALLATION PERSONNEL SUPPORT.($/YR)								
	0.00	0.00	0.00	0.00	0.00	0.00	90,000.00	180,000.00	270,000.00	450,000.00
	540,000.00	540,000.00	630,000.00	720,000.00	810,000.00	810,000.00	720,000.00	720,000.00	630,000.00	630,000.00
	630,000.00	630,000.00	540,000.00	540,000.00	540,000.00	540,000.00				
WFC	(26)	GOVT. EXPENDITURES FOR MAINTENANCE OF THE AFLOAT FACILITIES.($/YR)								
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* READ ARRAY VALUES FROM LEFT TO RIGHT *

* * * INPUT DATA - ARRAYS * * *

NAME	DESCRIPTION									
MFC	(CONTINUED)									
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
MFCA	(26)	GOVT. EXPENDITURES FOR MAINTENANCE OF THE ASHORE FACILITIES ($/YR)								
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
MLIC	(26)	GOVT. EXPENDITURES FOR CONSTRUCTING, CONVERTING, ALTERING, OR MODIFYING THE MLSF.($/YR)								
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
MLOC	(26)	INCREMENTAL COSTS FOR OPERATING AND SUPPORT OF THE MLSF.($/YR)								
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
MODC	(26)	MODERNIZATION COST PER WEAPON SYSTEM DURING YEAR I.($/SYSTEM)								
	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00
	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00
	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00				
MODC	(26)	MODIFICATION COST PER WEAPON SYSTEM DURING YEAR I.($/SYSTEM)								
	240,000.00	240,000.00	240,000.00	240,000.00	240,000.00	240,000.00	240,000.00	240,000.00	240,000.00	240,000.00
	240,000.00	240,000.00	240,000.00	240,000.00	240,000.00	240,000.00	240,000.00	240,000.00	240,000.00	240,000.00
	240,000.00	240,000.00	240,000.00	240,000.00	240,000.00	240,000.00				
MS	(2)	UNIT PAY AND ALLOWANCES OF GRADE I PERSONNEL.($/MAN)								
	20,000.00	24,900.00								
MSO	(1)	UNIT PAY AND ALLOWANCES OF GRADE V PERSONNEL.($/MAN)								
	34,000.00									
MTBF	(20)	MEAN TIME BETWEEN FAILURES OF THE JCTH EQUIPMENT.(HRS/FAILURE)								
	5,000.00	20,000.00	20,000.00	20,000.00	20,000.00	5,000.00	20,000.00	20,000.00	20,000.00	20,000.00
	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00
MTBO	(11)	MEAN TIME BETWEEN DEPOT REWORK/OVERHAUL OF THE KTH EQUIPMENT.(HRS/(REWORK/OVERHAUL))								
	35,000.00	35,000.00	35,000.00	35,000.00	35,000.00	35,000.00	35,000.00	35,000.00	35,000.00	35,000.00
	35,000.00									
NB	(26)	NUMBER OF NEWLY INTRODUCED BASES SUPPORTING AIRCRAFT DURING YEAR I.(BASES)								
	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2.00	1.00	3.00
	1.00	0.00	2.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				

* READ ARRAY VALUES FROM LEFT TO RIGHT *

• • • INPUT DATA - ARRAYS • • •

NAME	DESCRIPTION
NCR	(26, 2) TOTAL NUMBER OF CREW PERSONNEL OF GRADE A IN YEAR I, (MEN)

0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
36.00	36.00
54.00	54.00
90.00	90.00
108.00	108.00
126.00	126.00
144.00	144.00
162.00	162.00
162.00	162.00
144.00	144.00
144.00	144.00
126.00	126.00
126.00	126.00
126.00	126.00
126.00	126.00
126.00	126.00
108.00	108.00
108.00	108.00
108.00	108.00
108.00	108.00
108.00	108.00

NAFS	(26)									
	0.00	0.00	0.00	0.00	0.00	0.00	1.00	3.00	4.00	7.00
	5.00	8.00	10.00	11.00	12.00	12.00	11.00	11.00	10.00	10.00
	10.00	10.00	9.00	9.00	9.00	9.00				

NAFS	(26) NUMBER OF MAINTENANCE FACILITIES SERVICING SUPPORT SYSTEMS OF THE MAJOR WEAPON SYSTEM IN YEAR I, (SITES)									
	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	2.00
	2.00	2.00	2.00	2.00	3.00	3.00	3.00	3.00	3.00	3.00
	3.00	3.00	3.00	3.00	3.00	3.00				

NAP	(26, 2) NUMBER OF PERSONNEL OF GRADE T AT AFLOAT FACILITIES MAINTAINING THE WEAPON SYSTEM, (MEN/GRADE/YR)

0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
60.00	60.00
90.00	90.00
150.00	150.00

• READ ARRAY VALUES FROM LEFT TO RIGHT •

* * * INPUT DATA - ARRAYS * * *

READ ARRAY VALUES FROM LEFT TO RIGHT

NAME DESCRIPTION

WMP (CONTINUED)

180.00	180.00
180.00	180.00
210.00	210.00
240.00	240.00
270.00	270.00
270.00	270.00
240.00	240.00
240.00	240.00
210.00	210.00
210.00	210.00
210.00	210.00
210.00	210.00
150.00	180.00
150.00	180.00
150.00	180.00
150.00	150.00

WMPA (26, 2) NUMBER OF PERSONNEL OF GRADE T AT ASHORE FACILITIES MAINTAINING THE WEAPON SYSTEM.(MEN/GRADE/YR)

0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
120.00	120.00
150.00	180.00
300.00	300.00
360.00	360.00
360.00	360.00
420.00	420.00
480.00	480.00
540.00	540.00
540.00	540.00
480.00	480.00
480.00	480.00
420.00	420.00
420.00	420.00
420.00	420.00
420.00	420.00
350.00	350.00
350.00	350.00
350.00	350.00
350.00	350.00
350.00	350.00

READ ARRAY VALUES FROM LEFT TO RIGHT

* * * INPUT DATA - ARRAYS * * *

NAME	DESCRIPTION									
NN	(26) NUMBER OF WEAPON SYSTEMS INTRODUCED INTO INVENTORY DURING YEAR I.(SYSTEM/YR)									
	0.00	0.00	0.00	0.00	0.00	0.00	1.00	15.00	20.00	25.00
	36.00	36.00	36.00	36.00	30.00	24.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
NNN	(26) NUMBER OF WEAPON SYSTEMS IN INVENTORY DURING YEAR I.(SYSTEMS)									
	0.00	0.00	0.00	0.00	0.00	0.00	1.00	16.00	36.00	60.00
	94.00	126.00	157.00	186.00	208.00	223.00	213.00	204.00	195.00	187.00
	179.00	171.00	164.00	157.00	150.00	144.00				
NOP	(26, 1) NUMBER OF PERSONNEL OF GRADE V AT AFLOAT FACILITIES MAINTAINING ORDNANCE SYSTEMS.(MEN/GRADE/YR)									
	0.00									
	0.00									
	0.00									
	0.00									
	0.00									
	0.00									
	5.00									
	10.00									
	15.00									
	25.00									
	30.00									
	30.00									
	35.00									
	40.00									
	45.00									
	45.00									
	40.00									
	40.00									
	33.00									
	35.00									
	35.00									
	35.00									
	30.00									
	30.00									
	30.00									
	30.00									
NOPA	(25, 1) NUMBER OF PERSONNEL OF GRADE V AT ASHORE FACILITIES MAINTAINING ORDNANCE SYSTEMS.(MEN/GRADE/YR)									
	0.00									
	0.00									
	0.00									
	0.00									
	0.00									
	0.00									
	10.00									
	20.00									
	30.00									
	50.00									

* READ ARRAY VALUES FROM LEFT TO RIGHT *

• READ ARRAY VALUES FROM LEFT TO RIGHT •

• • • INPUT DATA - ARRAYS • • •

NAME DESCRIPTION

NOPA (CONTINUED)

50.00
60.00
70.00
80.00
90.00
80.00
90.00
80.00
70.00
70.00
70.00
70.00
60.00
60.00
60.00
50.00

NPO (26) NUMBER OF WEAPON SYSTEMS PHASED OUT DURING YEAR I.(SYSTEMS/YR)

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
2.00	4.00	5.00	7.00	8.00	9.00	10.00	9.00	9.00	8.00
8.00	8.00	7.00	7.00	7.00	6.00				

NSE (26, 1) TOTAL POPULATION OF SUPPORT EQUIPMENTS OF TYPE C.(EQUIPMENTS/YR)

0.00
0.00
0.00
0.00
0.00
0.00
1.00
3.00
4.00
7.00
8.00
9.00
10.00
11.00
12.00
12.00
11.00
11.00
10.00
10.00
10.00
10.00
9.00

• READ ARRAY VALUES FROM LEFT TO RIGHT •

* * * INPUT DATA - ARRAYS * * *

NAME DESCRIPTION

NSE (CONTINUED)
9.00
9.00
9.00

NSTA (26, 1) TOTAL NUMBER OF COMMAND STAFF PERSONNEL OF GRADE E IN YEAR I,(MEN)
0.00
0.00
0.00
0.00
0.00
0.00
1.00
3.00
4.00
7.00
9.00
9.00
10.00
11.00
12.00
12.00
11.00
11.00
10.00
10.00
10.00
10.00
9.00
9.00
9.00
9.00

ODH (26) GOVT. EXPENDITURES IN YEAR I FOR OTHER DEPLOYED MANPOWER,($/YR)
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00

PA (2) ANNUAL PAY AND ALLOWANCES PER MAN OF GRADE A,($/MAN)
22,000.00 26,000.00

PACC (26) GOVT. EXPENDITURES FOR PERSONNEL ACTIVITIES,($/YR)
0.00 0.00 0.00 0.00 0.00 0.00 10,000.00 30,000.00 40,000.00 70,000.00
80,000.00 80,000.00 100,000.00 110,000.00 120,000.00 120,000.00 110,000.00 110,000.00 100,000.00 100,000.00
100,000.00 100,000.00 90,000.00 90,000.00 90,000.00 90,000.00

* READ ARRAY VALUES FROM LEFT TO RIGHT *

* * * INPUT DATA - ARRAYS * * *

NAME	DESCRIPTION
PAS (1)	ANNUAL PAY AND ALLOWANCES PER MAN OF GRADE E.($/MAN)
36,000.00	
PESC (26)	GOVT. EXPENDITURES FOR PERSONNEL SUPPORT.($/YR)
0.00 0.00 0.00 0.00 0.00 0.00 20,000.00 60,000.00 80,000.00 140,000.00	
160,000.00 160,000.00 200,000.00 220,000.00 240,000.00 240,000.00 220,000.00 220,000.00 200,000.00 200,000.00	
200,000.00 200,000.00 180,000.00 180,000.00 180,000.00 180,000.00	
PM3 (26)	GOVT. PROJECT MANAGEMENT COST.($/YR)
0.00 0.00 0.00 0.00 0.00 0.00 26,800,000.00 0.00 0.00 0.00	
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	
0.00 0.00 0.00 0.00 0.00 0.00	
POT (2)	PROPORTION OF TIME PERSONNEL OF GRADE T ARE DEDICATED TO WEAPON SYSTEM.(RATIO)
1.00 1.00	
PSC (26)	GOVT. EXPENDITURES FOR PERSONNEL SUPPORT.($/YR)
0.00 0.00 0.00 0.00 0.00 0.00 20,000.00 60,000.00 80,000.00 140,000.00	
160,000.00 160,000.00 200,000.00 220,000.00 240,000.00 240,000.00 220,000.00 220,000.00 200,000.00 200,000.00	
200,000.00 200,000.00 180,000.00 180,000.00 180,000.00 180,000.00	
PTE (26)	TEST AND EVALUATION COSTS INCURRED DURING YEAR I.($/YR)
0.00 0.00 0.00 0.00 0.00 0.00 21,800,000.00 0.00 0.00 0.00	
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	
0.00 0.00 0.00 0.00 0.00 0.00	
RPMC (26)	GOVT. EXPENDITURES FOR REAL PROPERTY MAINTENANCE.($/YR)
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	
0.00 0.00 0.00 0.00 0.00 0.00	
RSEC (26)	GOVT. EXPENDITURES FOR REPLENTISHMENT SUPPORT EQUIPMENT.($/YR)
0.00 0.00 0.00 0.00 0.00 0.00 641,300.00 1,602,500.00 2,232,500.00 2,567,500.00	
2,962,500.00 3,177,500.00 33,350.00 33,350.00 33,350.00 33,350.00 3,177,500.00 3,020,000.00 2,705,000.00 2,232,500.00	
2,000,000.00 2,000,000.00 2,000,000.00 2,000,000.00 2,000,000.00 2,000,000.00	
RTRE (26)	GOVT. EXPENDITURES FOR REPLACEMENT TRAINING EQUIPMENT.($/YR)
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	
0.00 0.00 0.00 0.00 0.00 0.00	
RTRS (26)	GOVT. EXPENDITURES FOR TRAINING SERVICES FOR PERSONNEL REPLACING THOSE LOST THROUGH ATTRITION.($/YR)
0.00 0.00 0.00 0.00 0.00 0.00 50,000.00 50,000.00 50,000.00 50,000.00	
50,000.00 50,000.00 50,000.00 50,000.00 50,000.00 50,000.00 50,000.00 50,000.00 50,000.00 50,000.00	
50,000.00 50,000.00 50,000.00 50,000.00 50,000.00 0.00	
SA (26)	GOVT. EXPENDITURES FOR OPERATIONAL SITE ACTIVATION.($/YR)
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	
0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	

* READ ARRAY VALUES FROM LEFT TO RIGHT *

* * * INPUT DATA - ARRAYS * * *

* READ ARRAY VALUES FROM LEFT TO RIGHT *

NAME	DESCRIPTION									
SA	(CONTINUED)									
	0.00	0.00	0.00	0.00	0.00	0.00				
SS	(26) COST OF SYSTEM STOCK FOR YEAR I.($)									
	0.00	0.00	0.00	0.00	0.0020,000,000.00	0.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	0.00	0.00	0.00	0.00	0.00	0.00				
TESC	(26) GOVT. EXPENDITURES FOR TECHNICAL SUPPORT.($/YR)									
	0.00	0.00	0.00	0.00	0.00	0.00	1,655,600.00	3,447,200.00	1,553,600.00	1,546,900.00
	1,239,000.00	7,862.00	7,862.00	7,862.00	7,862.00	7,862.00	7,862.00	7,862.00	7,862.00	7,862.00
	7,852.00	7,862.00	7,862.00	7,862.00	7,862.00	7,862.00				
TRE	(26) GOVT. EXPENDITURES FOR TRAINING EQUIPMENT.($/YR)									
	0.00	0.00	0.00	0.00	0.00	1,386,000.00	1,386,000.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
TRF	(26) GOVT. EXPENDITURES FOR TRAINING FACILITIES.($/YR)									
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
TRIC	(26) GOVT. EXPENDITURES FOR CONSTRUCTING, CONVERTING, ALTERING, OR MODIFYING TENDERS AND REPAIR SHIPS.($/YR)									
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
TRIC	(26) INCREMENTAL COSTS FOR OPERATING AND SUPPORT OF THE TENDER AND REPAIR SHIPS.($/YR)									
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
TRS	(26) GOVT. EXPENDITURES FOR TRAINING SERVICES.($/YR)									
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00				
APS	(26) GOVT. EXPENDITURES FOR PERSONNEL SUPPORT AT AFLOAT FACILITIES.($/YR)									
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	600,000.00	900,000.00	1,500,000.00
	1,800,000.00	1,900,000.00	2,100,000.00	2,400,000.00	2,700,000.00	2,700,000.00	2,400,000.00	2,400,000.00	2,100,000.00	2,100,000.00
	2,100,000.00	2,100,000.00	1,900,000.00	1,800,000.00	1,800,000.00	1,800,000.00				

* READ ARRAY VALUES FROM LEFT TO RIGHT *

DATE 11/25/77 WEAPON SYSTEM LCC TEST RUN PAGE 5.001

COST ADJUSTMENT FACTORS

YEAR	INFLATION FACTORS				INFLATION AND DISCOUNT FACTORS				DISCOUNT FACTORS
	R & D	PROCUREMENT	CONSTRUCTION	O & M	R & D	PROCUREMENT	CONSTRUCTION	O & M	
1	1.028	1.025	1.030	1.035	0.973	0.977	0.982	0.986	0.955
2	1.061	1.056	1.092	1.107	0.920	0.933	0.946	0.959	0.868
3	1.103	1.130	1.157	1.185	0.870	0.890	0.912	0.933	0.789
4	1.147	1.187	1.227	1.268	0.822	0.850	0.879	0.908	0.717
5	1.193	1.246	1.300	1.357	0.777	0.811	0.847	0.883	0.652
6	1.241	1.309	1.378	1.452	0.735	0.774	0.816	0.859	0.593
7	1.291	1.374	1.461	1.553	0.695	0.739	0.786	0.836	0.539
8	1.342	1.442	1.549	1.662	0.657	0.706	0.758	0.813	0.490
9	1.396	1.514	1.642	1.778	0.621	0.674	0.730	0.791	0.445
10	1.452	1.590	1.740	1.903	0.587	0.643	0.703	0.769	0.405
11	1.510	1.670	1.845	2.036	0.555	0.614	0.678	0.749	0.368
12	1.570	1.753	1.955	2.179	0.525	0.586	0.653	0.728	0.335
13	1.633	1.841	2.073	2.331	0.496	0.559	0.629	0.708	0.304
14	1.698	1.933	2.197	2.494	0.469	0.534	0.607	0.689	0.276
15	1.766	2.029	2.329	2.669	0.444	0.510	0.585	0.670	0.251
16	1.837	2.131	2.468	2.856	0.419	0.486	0.563	0.651	0.229
17	1.910	2.237	2.617	3.055	0.396	0.464	0.543	0.634	0.208
18	1.987	2.349	2.774	3.269	0.375	0.443	0.523	0.616	0.189
19	2.066	2.467	2.940	3.498	0.354	0.423	0.504	0.600	0.172
20	2.149	2.590	3.116	3.743	0.335	0.404	0.486	0.583	0.156
21	2.235	2.720	3.303	4.005	0.317	0.385	0.468	0.567	0.142
22	2.324	2.856	3.502	4.285	0.300	0.368	0.451	0.552	0.129
23	2.417	2.999	3.712	4.585	0.283	0.351	0.435	0.537	0.117
24	2.514	3.149	3.934	4.906	0.268	0.335	0.419	0.522	0.107
25	2.615	3.306	4.170	5.250	0.253	0.320	0.404	0.509	0.097
26	2.719	3.471	4.421	5.617	0.239	0.305	0.389	0.494	0.088

********** MILITARY PERSONNEL FUNDING USES THE SAME COST ADJUSTMENT FACTORS AS O&M **********

$$$ COSTS IN THOUSAND DOLLARS $$$ SUMMARY *****BASE YEAR= 1 *CONSTANT DOLLARS*****

COST CATEGORY	COST ELEMENT: DEVELOPMENT	INVESTMENT	O&S			COST CATEGORY TOTAL
CONTRACTOR	562,582	0	0	0	0	562,582
% OF COST CATEGORY TOTAL	100.0	0.0	0.0	0.0	0.0	100.0
% OF COST ELEMENT TOTAL	95.7	0.0	0.0	0.0	0.0	4.4
PROGRAM MANAGEMENT	10,869	53,600	0	0	0	64,469
% OF COST CATEGORY TOTAL	16.9	83.1	0.0	0.0	0.0	100.0
% OF COST ELEMENT TOTAL	1.8	0.6	0.0	0.0	0.0	0.5
TESTING	14,479	21,800	0	0	0	36,279
% OF COST CATEGORY TOTAL	39.9	60.1	0.0	0.0	0.0	100.0
% OF COST ELEMENT TOTAL	2.5	0.2	0.0	0.0	0.0	0.3
PRIME EQUIPMENT	0	9,177,033	0	0	0	9,177,033
% OF COST CATEGORY TOTAL	0.0	100.0	0.0	0.0	0.0	100.0
% OF COST ELEMENT TOTAL	0.0	36.0	0.0	0.0	0.0	24.9
TRAINING	0	177,544	950	0	0	178,494
% OF COST CATEGORY TOTAL	0.0	99.5	0.5	0.0	0.0	100.0
% OF COST ELEMENT TOTAL	0.0	1.9	0.0	0.0	0.0	1.4
SUPPLY SUPPORT	0	420,592	691,727	0	0	1,112,319
% OF COST CATEGORY TOTAL	0.0	37.8	62.2	0.0	0.0	100.0
% OF COST ELEMENT TOTAL	0.0	4.5	24.4	0.0	0.0	8.7
TECHNICAL DATA	0	209,593	98,104	0	0	307,697
% OF COST CATEGORY TOTAL	0.0	68.1	31.9	0.0	0.0	100.0
% OF COST ELEMENT TOTAL	0.0	2.2	3.5	0.0	0.0	2.4
SUPPORT EQUIPMENT	0	5,278,805	36,332	0	0	5,315,137
% OF COST CATEGORY TOTAL	0.0	99.3	0.7	0.0	0.0	100.0
% OF COST ELEMENT TOTAL	0.0	56.5	1.3	0.0	0.0	41.7
OPERATION	0	0	631,479	0	0	631,479
% OF COST CATEGORY TOTAL	0.0	0.0	100.0	0.0	0.0	100.0
% OF COST ELEMENT TOTAL	0.0	0.0	22.3	0.0	0.0	5.0
MAINTENANCE	0	0	1,371,206	0	0	1,371,206
% OF COST CATEGORY TOTAL	0.0	0.0	100.0	0.0	0.0	100.0
% OF COST ELEMENT TOTAL	0.0	0.0	48.5	0.0	0.0	10.7
COST ELEMENT TOTAL	587,930	9,338,968	2,829,798	0	0	12,755,695
% OF LIFE CYCLE COST	4.6	73.2	22.2	0.0	0.0	100.0

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FUNDING VS. COST CATEGORY

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 *CONSTANT DOLLARS*****

COST CATEGORY	FUNDING TYPE: R & D	PROCUREMENT	CONSTRUCTION	O & M	MILL PERSONNEL	OTHERS	COST CATEGORY TOTAL
CONTRACTOR	552,592	0	0	0	0	0	552,592
% OF COST CATEGORY TOTAL	100.0	0.0	0.0	0.0	0.0	0.0	100.0
% OF FUNDING TYPE TOTAL	95.7	0.0	0.0	0.0	0.0	0.0	4.4
PROGRAM MANAGEMENT	10,969	53,500	0	0	0	0	64,469
% OF COST CATEGORY TOTAL	16.9	83.1	0.0	0.0	0.0	0.0	100.0
% OF FUNDING TYPE TOTAL	1.8	0.5	0.0	0.0	0.0	0.0	0.5
TESTING	14,479	21,800	0	0	0	0	36,279
% OF COST CATEGORY TOTAL	39.9	60.1	0.0	0.0	0.0	0.0	100.0
% OF FUNDING TYPE TOTAL	2.5	0.2	0.0	0.0	0.0	0.0	0.3
PRIME EQUIPMENT	0	3,170,163	6,870	0	0	0	3,177,033
% OF COST CATEGORY TOTAL	0.0	99.8	0.2	0.0	0.0	0.0	100.0
% OF FUNDING TYPE TOTAL	0.0	31.6	28.3	0.0	0.0	0.0	24.9
TRAINING	0	175,722	2,772	0	0	0	178,494
% OF COST CATEGORY TOTAL	0.0	98.4	1.6	0.0	0.0	0.0	100.0
% OF FUNDING TYPE TOTAL	0.0	1.8	11.4	0.0	0.0	0.0	1.4
SUPPLY SUPPORT	0	1,111,727	0	592	0	0	1,112,319
% OF COST CATEGORY TOTAL	0.0	99.9	0.0	0.1	0.0	0.0	100.0
% OF FUNDING TYPE TOTAL	0.0	11.1	0.0	0.0	0.0	0.0	8.7
TECHNICAL DATA	0	209,593	0	98,104	0	0	307,697
% OF COST CATEGORY TOTAL	0.0	68.1	0.0	31.9	0.0	0.0	100.0
% OF FUNDING TYPE TOTAL	0.0	2.1	0.0	4.9	0.0	0.0	2.4
SUPPORT EQUIPMENT	0	5,256,331	0	58,806	0	0	5,315,137
% OF COST CATEGORY TOTAL	0.0	98.9	0.0	1.1	0.0	0.0	100.0
% OF FUNDING TYPE TOTAL	0.0	52.4	0.0	3.0	0.0	0.0	41.7
OPERATION	0	28,710	0	471,225	131,544	0	631,479
% OF COST CATEGORY TOTAL	0.0	4.5	0.0	74.6	20.8	0.0	100.0
% OF FUNDING TYPE TOTAL	0.0	0.3	0.0	23.7	100.0	0.0	5.0
MAINTENANCE	0	0	14,640	1,356,566	0	0	1,371,206
% OF COST CATEGORY TOTAL	0.0	0.0	1.1	98.9	0.0	0.0	100.0
% OF FUNDING TYPE TOTAL	0.0	0.0	60.3	68.3	0.0	0.0	10.7
FUNDING TYPE TOTAL	597,930	10,027,647	24,282	1,985,292	131,544	0	12,756,695
% OF LIFE CYCLE COST	4.6	78.6	0.2	15.6	1.0	0.0	100.0

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/COST BREAKDOWN BY YEAR

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR=__) ,CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	COST FOR YEAR 1	2	3	4	5
000000	LIFE CYCLE COST	27,374	60,537	96,676	174,703	174,806
100000	RESEARCH AND DEVELOPMENT	26,064	59,227	95,365	173,392	172,903
110000	VALIDATION	26,064	59,227	0	0	0
111000	CONTRACTOR	26,064	58,725	0	0	0
112000	GOVERNMENT	0	502	0	0	0
120000	FULL SCALE DEVELOPMENT	0	0	95,365	173,392	172,903
121000	CONTRACTOR	0	0	91,873	164,531	163,774
121100	PROGRAM MANAGEMENT	0	0	6,980	12,040	10,246
121200	ENGINEERING	0	0	46,400	91,635	74,335
121300	PROTOTYPE HARDWARE	0	0	16,320	28,851	26,282
121400	SOFTWARE	0	0	0	0	0
121500	INTEGRATION AND TEST	0	0	20,403	38,540	42,840
121600	DOCUMENTATION	0	0	1,870	3,465	10,070
122000	GOVERNMENT	0	0	3,492	8,851	9,130
122100	PROJECT MANAGEMENT	0	0	1,032	1,813	1,709
122200	SYSTEMS ENGINEERING	0	0	1,032	1,813	1,709
122300	SYSTEM TEST AND EVALUATION	0	0	1,428	5,236	5,711
122310	TEST PERSONNEL AND TRAINING	0	0	240	704	666
122320	TEST SPARES	0	0	108	412	477
122330	TEST AGE/SSE/TE	0	0	540	2,060	2,284
122340	TEST FACILITIES	0	0	540	2,060	2,284
122400	FOREIGN MILITARY SALES	0	0	0	0	0
200000	INVESTMENT	0	0	0	0	592
210000	ACQUISITION (CONTRACTOR)	0	0	0	0	0
211000	PRODUCTION HARDWARE	0	0	0	0	0
212000	PECULIAR SUPPORT EQUIPMENT	0	0	0	0	0
213000	TRAINING	0	0	0	0	0
214000	INTEGRATION AND TEST	0	0	0	0	0
215000	PROGRAM MANAGEMENT	0	0	0	0	0
216000	DOCUMENTATION	0	0	0	0	0
217000	TECHNICAL SUPPORT	0	0	0	0	0
218000	INDUSTRIAL FACILITIES	0	0	0	0	0
219000	INITIAL SPARES AND REPAIR PARTS	0	0	0	0	0
220000	GOVERNMENT	0	0	0	0	592
221000	GFE/GFM	0	0	0	0	0
222000	COMMON SUPPORT EQUIPMENT	0	0	0	0	0
223000	TRAINING	0	0	0	0	0
224000	SYSTEM TEST AND EVALUATION	0	0	0	0	0
225000	PROJECT MANAGEMENT	0	0	0	0	0
226000	DOCUMENTATION	0	0	0	0	0
227000	SITE ACTIVATION	0	0	0	0	0
227100	OPERATIONAL SITES	0	0	0	0	0
227200	MAINTENANCE FACILITIES	0	0	0	0	0
228000	SUPPLY INTRODUCTION	0	0	0	0	592

COST BREAKDOWN BY YEAR

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	COST FOR YEAR 1	2	3	4	5
220000	TRANSPORTATION	0	0	0	0	0
300000	OPERATING AND SUPPORT	1,310	1,310	1,310	1,310	1,310
310000	OPERATING	0	0	0	0	0
311000	CREW	0	0	0	0	0
312000	STAFF	0	0	0	0	0
313000	MATERIAL	0	0	0	0	0
314000	SECURITY	0	0	0	0	0
315000	OTHER DEPLOYED MANPOWER	0	0	0	0	0
316000	PERSONNEL SUPPORT	0	0	0	0	0
320000	O/I MAINTENANCE ACTIVITY	0	0	0	0	0
321000	AFLOAT FACILITIES	0	0	0	0	0
321100	LABOR	0	0	0	0	0
321110	WEAPON SYSTEM MAINTENANCE	0	0	0	0	0
321120	ORDNANCE MAINTENANCE	0	0	0	0	0
321200	MATERIAL	0	0	0	0	0
321300	PERSONNEL SUPPORT	0	0	0	0	0
321400	SITE MAINTENANCE	0	0	0	0	0
322000	ASHORE FACILITIES	0	0	0	0	0
322100	LABOR	0	0	0	0	0
322110	WEAPON SYSTEM MAINTENANCE	0	0	0	0	0
322120	ORDNANCE MAINTENANCE	0	0	0	0	0
322200	MATERIAL	0	0	0	0	0
322300	PERSONNEL SUPPORT	0	0	0	0	0
322400	SITE MAINTENANCE	0	0	0	0	0
330000	INSTALLATION SUPPORT	0	0	0	0	0
331000	BASE OPERATING SUPPORT	0	0	0	0	0
332000	REAL PROPERTY MAINTENANCE	0	0	0	0	0
333000	PERSONNEL SUPPORT	0	0	0	0	0
340000	DEPOT MAINTENANCE	0	0	0	0	0
341000	SCHEDULED MAINTENANCE	0	0	0	0	0
342000	UNSCHEDULED MAINTENANCE	0	0	0	0	0
343000	MODERNIZATION	0	0	0	0	0
344000	COMPONENT REPAIR	0	0	0	0	0
350000	DEPOT SUPPLY	1,310	1,310	1,310	1,310	1,310
351000	MATERIAL MANAGEMENT	1,310	1,310	1,310	1,310	1,310
352000	TECHNICAL SUPPORT	0	0	0	0	0
360000	SECOND DESTINATION TRANSPORTATION	0	0	0	0	0
361000	SCHEDULED	0	0	0	0	0
362000	UNSCHEDULED	0	0	0	0	0
370000	PERSONNEL SUPPORT AND TRAINING	0	0	0	0	0
371000	INDIVIDUAL TRAINING	0	0	0	0	0
372000	HEALTH CARE	0	0	0	0	0
373000	PERSONNEL ACTIVITIES	0	0	0	0	0
374000	PERSONNEL SUPPORT	0	0	0	0	0
390000	SUSTAINING INVESTMENTS	0	0	0	0	0

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COST BREAKDOWN BY YEAR

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	COST FOR YEAR 1	2	3	4	5
381000	REPLENTISHMENT SPARES	0	0	0	0	0
382000	MODIFICATIONS	0	0	0	0	0
383000	REPLENTISHMENT SUPPORT EQUIPMENT	0	0	0	0	0
384000	EXPENDABLE STORES	0	0	0	0	0
400000	ASSOCIATED SYSTEMS	0	0	0	0	0
410000	INVESTMENT	0	0	0	0	0
411000	MOBILE LOGISTICS SUPPORT FORCE	0	0	0	0	0
412000	TENDERS AND REPAIR SHIPS	0	0	0	0	0
413000	ASHORE INA	0	0	0	0	0
420000	OPERATING AND SUPPORT	0	0	0	0	0
421000	MOBILE LOGISTICS SUPPORT FORCE	0	0	0	0	0
422000	TENDERS AND REPAIR SHIPS	0	0	0	0	0
423000	ASHORE INA	0	0	0	0	0
424000	EMBARKED SYSTEMS	0	0	0	0	0
500000	TERMINATION	0	0	0	0	0

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COST BREAKDOWN BY YEAR

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 *CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	COST FOR YEAR 6	7	8	9	10
000000	LIFE CYCLE COST	322,091	377,356	391,213	463,487	709,296
100000	RESEARCH AND DEVELOPMENT	60,978	0	0	0	0
110000	VALIDATION	0	0	0	0	0
111000	CONTRACTOR	0	0	0	0	0
112000	GOVERNMENT	0	0	0	0	0
120000	FULL SCALE DEVELOPMENT	60,978	0	0	0	0
121000	CONTRACTOR	57,615	0	0	0	0
121100	PROGRAM MANAGEMENT	4,128	0	0	0	0
121200	ENGINEERING	26,070	0	0	0	0
121300	PROTOTYPE HARDWARE	9,257	0	0	0	0
121400	SOFTWARE	0	0	0	0	0
121500	INTEGRATION AND TEST	16,680	0	0	0	0
121600	DOCUMENTATION	1,480	0	0	0	0
122000	GOVERNMENT	3,363	0	0	0	0
122100	PROJECT MANAGEMENT	626	0	0	0	0
122200	SYSTEMS ENGINEERING	633	0	0	0	0
122300	SYSTEM TEST AND EVALUATION	2,104	0	0	0	0
122310	TEST PERSONNEL AND TRAINING	180	0	0	0	0
122320	TEST SPARES	184	0	0	0	0
122330	TEST AGE/GSE/TE	820	0	0	0	0
122340	TEST FACILITIES	920	0	0	0	0
122400	FOREIGN MILITARY SALES	0	0	0	0	0
200000	INVESTMENT	259,803	362,774	355,884	406,703	625,459
210000	ACQUISITION (CONTRACTOR)	242,808	293,788	343,241	400,142	619,010
211000	PRODUCTION HARDWARE	0	12,000	180,000	240,000	300,000
212000	PRODUCTION SUPPORT EQUIPMENT	0	30,000	90,000	120,000	210,000
213000	TRAINING	12,686	162,096	0	0	0
214000	INTEGRATION AND TEST	0	21,800	0	0	0
215000	PROGRAM MANAGEMENT	0	26,800	0	0	0
216000	DOCUMENTATION	204,242	729	135	969	0
217000	TECHNICAL SUPPORT	5,880	7,040	6,440	5,840	9,010
218000	INDUSTRIAL FACILITIES	0	0	0	0	0
219000	INITIAL SPARES AND REPAIR PARTS	20,000	33,333	66,667	33,333	100,000
220000	GOVERNMENT	16,995	68,996	12,643	6,551	6,449
221000	GFE/GFM	0	0	0	0	0
222000	COMMON SUPPORT EQUIPMENT	11,286	17,028	11,098	5,544	5,544
223000	TRAINING	1,386	1,386	0	0	0
224000	SYSTEM TEST AND EVALUATION	0	21,800	0	0	0
225000	PROJECT MANAGEMENT	0	26,800	0	0	0
226000	DOCUMENTATION	3,080	102	198	147	0
227000	SITE ACTIVATION	1,243	1,863	1,260	730	730
227100	OPERATIONAL SITES	0	0	0	0	0
227200	MAINTENANCE FACILITIES	1,243	1,863	1,260	730	730
228000	SUPPLY INTRODUCTION	0	0	0	0	0

COST BREAKDOWN BY YEAR

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 *CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	COST FOR YEAR 6	7	8	9	10
220000	* TRANSPORTATION	0	* *	105	140	175
300000	OPERATING AND SUPPORT	1,310	14,582	35,329	56,794	93,837
310000	OPERATING	0	2,103	5,566	10,709	15,683
311000	CREW	0	1,872	2,808	4,680	5,616
312000	STAFF	0	36	108	144	252
313000	MATERIAL	0	160	2,560	5,760	9,600
314000	SECURITY	0	15	30	45	75
315000	OTHER DEPLOYED MANPOWER	0	0	0	0	0
316000	PERSONNEL SUPPORT	0	20	60	80	140
320000	O/I MAINTENANCE ACTIVITY	0	7,798	15,796	25,341	35,549
321000	AFLOAT FACILITIES	0	220	4,434	7,251	12,085
321100	LABOR	0	170	3,034	4,551	7,585
321110	WEAPON SYSTEM MAINTENANCE	0	0	2,694	4,041	6,735
321120	ORDNANCE MAINTENANCE	0	170	340	510	850
321200	MATERIAL	0	50	800	1,800	3,000
321300	PERSONNEL SUPPORT	0	0	600	900	1,500
321400	SITE MAINTENANCE	0	0	0	0	0
322000	ASHORE FACILITIES	0	7,578	11,362	18,090	24,464
322100	LABOR	0	5,728	8,762	14,490	17,864
322110	WEAPON SYSTEM MAINTENANCE	0	5,388	8,042	13,470	16,164
322120	ORDNANCE MAINTENANCE	0	340	680	1,020	1,700
322200	MATERIAL	0	50	800	1,800	3,000
322300	PERSONNEL SUPPORT	0	1,800	1,800	1,800	3,600
322400	SITE MAINTENANCE	0	0	0	0	0
330000	INSTALLATION SUPPORT	0	110	240	350	590
331000	BASE OPERATING SUPPORT	0	20	60	80	140
332000	REAL PROPERTY MAINTENANCE	0	0	0	0	0
333000	PERSONNEL SUPPORT	0	90	180	270	450
340000	DEPOT MAINTENANCE	0	125	1,996	4,491	7,486
341000	SCHEDULED MAINTENANCE	0	5	72	163	272
342000	UNSCHEDULED MAINTENANCE	0	0	4	9	16
343000	MODERNIZATION	0	120	1,920	4,320	7,200
344000	COMPONENT REPAIR	0	0	0	0	0
350000	DEPOT SUPPLY	1,310	3,429	5,882	4,319	5,437
351000	MATERIAL MANAGEMENT	1,310	1,773	2,435	2,756	3,890
352000	TECHNICAL SUPPORT	0	1,656	3,447	1,554	1,547
360000	SECOND DESTINATION TRANSPORTATION	0	0	1	2	4
361000	SCHEDULED	0	0	1	2	3
362000	UNSCHEDULED	0	0	0	0	0
370000	PERSONNEL SUPPORT AND TRAINING	0	125	230	305	485
371000	INDIVIDUAL TRAINING	0	50	50	50	50
372000	HEALTH CARE	0	45	90	135	225
373000	PERSONNEL ACTIVITIES	0	10	30	40	70
376000	PERSONNEL SUPPORT	0	20	60	80	140
390000	SUSTAINING INVESTMENTS	0	892	5,617	11,256	17,604

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COST BREAKDOWN BY YEAR

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 *CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	COST FOR YEAR 6	7	8	9	10
391000	REPLENTISHMENT SPARES	0	1	15	34	56
392000	MODIFICATIONS	0	240	3,840	8,640	14,400
393000	REPLENTISHMENT SUPPORT EQUIPMENT	0	641	1,603	2,233	2,548
394000	EXPENDABLE STORES	0	10	160	360	600
400000	ASSOCIATED SYSTEMS	0	0	0	0	0
410000	INVESTMENT	0	0	0	0	0
411000	MOBILE LOGISTICS SUPPORT FORCE	0	0	0	0	0
412000	TENDERS AND REPAIR SHIPS	0	0	0	0	0
413000	ASHORE IMA	0	0	0	0	0
420000	OPERATING AND SUPPORT	0	0	0	0	0
421000	MOBILE LOGISTICS SUPPORT FORCE	0	0	0	0	0
422000	TENDERS AND REPAIR SHIPS	0	0	0	0	0
423000	ASHORE IMA	0	0	0	0	0
424000	ENHANCED SYSTEMS	0	0	0	0	0
500000	TERMINATION	0	0	0	0	0

/COST BREAKDOWN BY YEAR

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 ,CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	COST FOR YEAR 11	12	13	14	15
000000	LIFE CYCLE COST	925,339	807,537	954,491	975,032	958,672
100000	RESEARCH AND DEVELOPMENT	0	0	0	0	0
110000	VALIDATION	0	0	0	0	0
111000	CONTRACTOR	0	0	0	0	0
112000	GOVERNMENT	0	0	0	0	0
120000	FULL SCALE DEVELOPMENT	0	0	0	0	0
121000	CONTRACTOR	0	0	0	0	0
121100	PROGRAM MANAGEMENT	0	0	0	0	0
121200	ENGINEERING	0	0	0	0	0
121300	PROTOTYPE HARDWARE	0	0	0	0	0
121400	SOFTWARE	0	0	0	0	0
121500	INTEGRATION AND TEST	0	0	0	0	0
121600	DOCUMENTATION	0	0	0	0	0
122000	GOVERNMENT	0	0	0	0	0
122100	PROJECT MANAGEMENT	0	0	0	0	0
122200	SYSTEMS ENGINEERING	0	0	0	0	0
122300	SYSTEM TEST AND EVALUATION	0	0	0	0	0
122310	TEST PERSONNEL AND TRAINING	0	0	0	0	0
122320	TEST SPARES	0	0	0	0	0
122330	TEST AGE/SE/TE	0	0	0	0	0
122340	TEST FACILITIES	0	0	0	0	0
122400	FOREIGN MILITARY SALES	0	0	0	0	0
200000	INVESTMENT	716,199	675,339	798,919	795,585	753,543
210000	ACQUISITION (CONTRACTOR)	709,673	672,000	798,667	795,333	753,333
211000	PRODUCTION HARDWARE	432,000	432,000	432,000	432,000	360,000
212000	PECULIAR SUPPORT EQUIPMENT	240,000	240,000	300,000	330,000	360,000
213000	TRAINING	0	0	0	0	0
214000	INTEGRATION AND TEST	0	0	0	0	0
215000	PROGRAM MANAGEMENT	0	0	0	0	0
216000	DOCUMENTATION	0	0	0	0	0
217000	TECHNICAL SUPPORT	4,340	0	0	0	0
218000	INDUSTRIAL FACILITIES	0	0	0	0	0
219000	INITIAL SPARES AND REPAIR PARTS	33,333	0	66,667	33,333	33,333
220000	GOVERNMENT	6,526	3,339	252	252	210
221000	GFE/GFM	0	0	0	0	0
222000	COMMON SUPPORT EQUIPMENT	5,544	2,772	0	0	0
223000	TRAINING	0	0	0	0	0
224000	SYSTEM TEST AND EVALUATION	0	0	0	0	0
225000	PROJECT MANAGEMENT	0	0	0	0	0
226000	DOCUMENTATION	0	0	0	0	0
227000	SITE ACTIVATION	730	315	0	0	0
227100	OPERATIONAL SITES	0	0	0	0	0
227200	MAINTENANCE FACILITIES	730	315	0	0	0
229000	SUPPLY INTRODUCTION	0	0	0	0	0

'COST BREAKDOWN BY YEAR

$$$ COSTS IN THOUSAND DOLLARS $$$ •••••BASE YEAR= 1 •CONSTANT DOLLARS•••••

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	<---------- C O S T F O R Y E A R ----------> 11	12	13	14	15
220000	TRANSPORTATION	252	252	252	252	210
300000	OPERATING AND SUPPORT	109,140	132,190	155,572	179,447	197,129
310000	OPERATING	22,130	28,186	34,209	38,920	41,575
311000	CREW	6,552	7,488	8,424	8,424	7,488
312000	STAFF	288	288	360	396	432
313000	MATERIAL	15,040	20,160	25,120	29,760	33,280
314000	SECURITY	90	90	105	120	135
315000	OTHER DEPLOYED MANPOWER	0	0	0	0	0
316000	PERSONNEL SUPPORT	160	160	200	220	240
320000	O/I MAINTENANCE ACTIVITY	42,106	48,000	55,951	63,702	69,859
321000	AFLOAT FACILITIES	15,602	17,202	20,569	23,436	26,753
321100	LABOR	9,102	9,102	10,619	12,136	13,653
321110	WEAPON SYSTEM MAINTENANCE	8,082	8,082	9,429	10,776	12,123
321120	ORDNANCE MAINTENANCE	1,020	1,020	1,190	1,360	1,530
321200	MATERIAL	4,700	6,300	7,850	9,300	10,400
321300	PERSONNEL SUPPORT	1,800	1,800	2,100	2,400	2,700
321400	SITE MAINTENANCE	0	0	0	0	0
322000	ASHORE FACILITIES	26,504	30,798	35,382	39,864	43,106
322100	LABOR	18,204	20,898	23,932	26,956	27,306
322110	WEAPON SYSTEM MAINTENANCE	16,164	18,858	21,552	24,246	24,246
322120	ORDNANCE MAINTENANCE	2,040	2,040	2,340	2,720	3,060
322200	MATERIAL	4,700	6,300	7,950	9,300	10,400
322300	PERSONNEL SUPPORT	3,600	3,600	3,600	3,600	5,400
322400	SITE MAINTENANCE	0	0	0	0	0
330000	INSTALLATION SUPPORT	700	700	830	940	1,050
331000	BASE OPERATING SUPPORT	160	160	200	220	240
332000	REAL PROPERTY MAINTENANCE	0	0	0	0	0
333000	PERSONNEL SUPPORT	540	540	630	720	810
340000	DEPOT MAINTENANCE	11,727	15,720	19,587	23,205	25,950
341000	SCHEDULED MAINTENANCE	425	570	711	842	941
342000	UNSCHEDULED MAINTENANCE	22	29	37	44	49
343000	MODERNIZATION	11,280	15,120	18,840	22,320	24,960
344000	COMPONENT REPAIR	0	0	0	0	0
350000	DEPOT SUPPLY	5,460	4,229	4,898	5,221	5,684
351000	MATERIAL MANAGEMENT	4,221	4,221	4,883	5,213	5,676
352000	TECHNICAL SUPPORT	1,239	8	8	8	8
360000	SECOND DESTINATION TRANSPORTATION	6	8	9	11	13
361000	SCHEDULED	5	7	9	10	11
362000	UNSCHEDULED	1	1	1	1	1
370000	PERSONNEL SUPPORT AND TRAINING	560	580	665	740	770
371000	INDIVIDUAL TRAINING	50	50	50	50	50
372000	HEALTH CARE	270	270	315	360	360
373000	PERSONNEL ACTIVITIES	80	90	100	110	120
374000	PERSONNEL SUPPORT	160	150	200	220	240
380000	SUSTAINING INVESTMENTS	26,450	34,795	39,430	46,707	52,229

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/COST BREAKDOWN BY YEAR

$$$ COSTS IN THOUSAND DOLLARS $$$ ****BASE YEAR 1 CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	COST FOR YEAR 11	12	13	14	15
391000	REPLENISHMENT SPARES	88	118	147	174	195
392000	MODIFICATIONS	22,560	38,240	37,600	44,440	49,920
393000	REPLENISHMENT SUPPORT EQUIPMENT	2,863	3,178	33	33	33
394000	EXPENDABLE STORES	940	1,250	1,570	1,860	2,080
400000	ASSOCIATED SYSTEMS	0	0	0	0	0
410000	INVESTMENT	0	0	0	0	0
411000	MOBILE LOGISTICS SUPPORT FORCE	0	0	0	0	0
412000	TENDERS AND REPAIR SHIPS	0	0	0	0	0
413000	ASHORE [44	0	0	0	0	0
420000	OPERATING AND SUPPORT	0	0	0	0	0
421000	MOBILE LOGISTICS SUPPORT FORCE	0	0	0	0	0
422000	TENDERS AND REPAIR SHIPS	0	0	0	0	0
423000	ASHORE [44	0	0	0	0	0
424000	EMBARKED SYSTEMS	0	0	0	0	0
500000	TERMINATION	0	0	0	0	0

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COST BREAKDOWN BY YEAR

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 =CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	<---------- COST FOR YEAR ----------> 16	17	18	19	20
000000	LIFE CYCLE COST	952,094	527,078	518,460	479,724	474,166
100000	RESEARCH AND DEVELOPMENT	0	0	0	0	0
110000	VALIDATION	0	0	0	0	0
111000	CONTRACTOR	0	0	0	0	0
112000	GOVERNMENT	0	0	0	0	0
120000	FULL SCALE DEVELOPMENT	0	0	0	0	0
121000	CONTRACTOR	0	0	0	0	0
121100	PROGRAM MANAGEMENT	0	0	0	0	0
121200	ENGINEERING	0	0	0	0	0
121300	PROTOTYPE HARDWARE	0	0	0	0	0
121400	SOFTWARE	0	0	0	0	0
121500	INTEGRATION AND TEST	0	0	0	0	0
121600	DOCUMENTATION	0	0	0	0	0
122000	GOVERNMENT	0	0	0	0	0
122100	PROJECT MANAGEMENT	0	0	0	0	0
122200	SYSTEMS ENGINEERING	0	0	0	0	0
122300	SYSTEM TEST AND EVALUATION	0	0	0	0	0
122310	TEST PERSONNEL AND TRAINING	0	0	0	0	0
122320	TEST SPARES	0	0	0	0	0
122330	TEST AGE/SSE/TE	0	0	0	0	0
122340	TEST FACILITIES	0	0	0	0	0
122400	FOREIGN MILITARY SALES	0	0	0	0	0
200000	INVESTMENT	548,168	330,000	330,000	300,000	300,000
210000	ACQUISITION (CONTRACTOR)	548,000	330,000	330,000	300,000	300,000
211000	PRODUCTION HARDWARE	288,000	0	0	0	0
212000	PECULIAR SUPPORT EQUIPMENT	360,000	330,000	330,000	300,000	300,000
213000	TRAINING	0	0	0	0	0
214000	INTEGRATION AND TEST	0	0	0	0	0
215000	PROGRAM MANAGEMENT	0	0	0	0	0
216000	DOCUMENTATION	0	0	0	0	0
217000	TECHNICAL SUPPORT	0	0	0	0	0
218000	INDUSTRIAL FACILITIES	0	0	0	0	0
219000	INITIAL SPARES AND REPAIR PARTS	0	0	0	0	0
220000	GOVERNMENT	168	0	0	0	0
221000	GFE/GFP	0	0	0	0	0
222000	COMMON SUPPORT EQUIPMENT	0	0	0	0	0
223000	TRAINING	0	0	0	0	0
224000	SYSTEM TEST AND EVALUATION	0	0	0	0	0
225000	PROJECT MANAGEMENT	0	0	0	0	0
226000	DOCUMENTATION	0	0	0	0	0
227000	SITE ACTIVATION	0	0	0	0	0
227100	OPERATIONAL SITES	0	0	0	0	0
227200	MAINTENANCE FACILITIES	0	0	0	0	0
228000	SUPPLY INTRODUCTION	0	0	0	0	0

'COST BREAKDOWN BY YEAR

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 *CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	COST FOR YEAR 16	17	18	19	20
220000	TRANSPORTATION	160	0	0	0	0
300000	OPERATING AND SUPPORT	203,926	197,078	188,460	179,724	174,166
310000	OPERATING	43,975	41,368	39,928	38,417	37,137
311000	CREW	7,489	6,552	6,552	6,552	5,552
312000	STAFF	432	396	396	360	360
313000	MATERIAL	35,680	34,080	32,640	31,200	29,920
314000	SECURITY	135	120	120	105	105
315000	OTHER DEPLOYED MANPOWER	0	0	0	0	0
316000	PERSONNEL SUPPORT	240	220	220	200	200
320000	O/I MAINTENANCE ACTIVITY	68,665	65,508	61,914	59,857	58,057
321000	AFLOAT FACILITIES	27,503	25,186	24,736	22,459	22,069
321100	LABOR	13,653	12,136	12,136	10,619	10,619
321110	WEAPON SYSTEM MAINTENANCE	12,123	10,776	10,776	9,429	9,429
321120	ORDNANCE MAINTENANCE	1,530	1,360	1,360	1,190	1,190
321200	MATERIAL	11,150	10,650	10,200	9,750	9,350
321300	PERSONNEL SUPPORT	2,700	2,400	2,400	2,100	2,100
321400	SITE MAINTENANCE	0	0	0	0	0
322000	ASHORE FACILITIES	41,162	40,322	37,178	36,398	35,988
322100	LABOR	24,612	24,272	21,578	21,238	21,238
322110	WEAPON SYSTEM MAINTENANCE	21,552	21,552	18,858	18,858	18,858
322120	ORDNANCE MAINTENANCE	3,060	2,720	2,720	2,380	2,380
322200	MATERIAL	11,150	10,650	10,200	9,750	9,350
322300	PERSONNEL SUPPORT	5,400	5,400	5,400	5,400	5,400
322400	SITE MAINTENANCE	0	0	0	0	0
330000	INSTALLATION SUPPORT	1,050	960	960	830	830
331000	BASE OPERATING SUPPORT	240	220	220	200	200
332000	REAL PROPERTY MAINTENANCE	0	0	0	0	0
333000	PERSONNEL SUPPORT	810	720	720	630	630
340000	DEPOT MAINTENANCE	27,821	26,574	25,451	24,328	23,330
341000	SCHEDULED MAINTENANCE	1,009	964	923	893	846
342000	UNSCHEDULED MAINTENANCE	52	50	48	46	44
343000	MODERNIZATION	26,760	25,560	24,480	23,400	22,440
344000	COMPONENT REPAIR	0	0	0	0	0
350000	DEPOT SUPPLY	5,684	5,353	5,353	5,023	5,023
351000	MATERIAL MANAGEMENT	5,676	5,346	5,346	5,015	5,015
352000	TECHNICAL SUPPORT	8	8	8	8	8
360000	SECOND DESTINATION TRANSPORTATION	13	13	12	12	11
361000	SCHEDULED	12	12	11	11	10
362000	UNSCHEDULED	1	1	1	1	1
370000	PERSONNEL SUPPORT AND TRAINING	725	695	650	620	620
371000	INDIVIDUAL TRAINING	50	50	50	50	50
372000	HEALTH CARE	315	315	270	270	270
373000	PERSONNEL ACTIVITIES	120	110	110	100	100
374000	PERSONNEL SUPPORT	240	220	220	200	200
390000	SUSTAINING INVESTMENTS	55,992	56,627	54,211	51,638	49,158

COST BREAKDOWN BY YEAR

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 ,CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	COST FOR YEAR 16	17	18	19	20
391000	REPLENTISHMENT SPARES	209	199	191	183	175
392000	MODIFICATIONS	53,520	51,120	48,960	46,800	44,880
393000	REPLENTISHMENT SUPPORT EQUIPMENT	33	3,178	3,020	2,705	2,233
394000	EXPENDABLE STORES	2,230	2,130	2,040	1,950	1,870
400000	ASSOCIATED SYSTEMS	0	0	0	0	0
410000	INVESTMENT	0	0	0	0	0
411000	MOBILE LOGISTICS SUPPORT FORCE	0	0	0	0	0
412000	TENDERS AND REPAIR SHIPS	0	0	0	0	0
413000	ASHORE I+A	0	0	0	0	0
420000	OPERATING AND SUPPORT	0	0	0	0	0
421000	MOBILE LOGISTICS SUPPORT FORCE	0	0	0	0	0
422000	TENDERS AND REPAIR SHIPS	0	0	0	0	0
423000	ASHORE I+A	0	0	0	0	0
424000	EMBARKED SYSTEMS	0	0	0	0	0
500000	TERMINATION	0	0	0	0	0

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/COST BREAKDOWN BY YEAR

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 *CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	COST FOR YEAR 21	22	23	24	25
000000	LIFE CYCLE COST	668,847	660,086	622,937	618,485	616,036
100000	RESEARCH AND DEVELOPMENT	0	0	0	0	0
110000	VALIDATION	0	0	0	0	0
111000	CONTRACTOR	0	0	0	0	0
112000	GOVERNMENT	0	0	0	0	0
120000	FULL SCALE DEVELOPMENT	0	0	0	0	0
121000	CONTRACTOR	0	0	0	0	0
121100	PROGRAM MANAGEMENT	0	0	0	0	0
121200	ENGINEERING	0	0	0	0	0
121300	PROTOTYPE HARDWARE	0	0	0	0	0
121400	SOFTWARE	0	0	0	0	0
121500	INTEGRATION AND TEST	0	0	0	0	0
121600	DOCUMENTATION	0	0	0	0	0
122000	GOVERNMENT	0	0	0	0	0
122100	PROJECT MANAGEMENT	0	0	0	0	0
122200	SYSTEMS ENGINEERING	0	0	0	0	0
122300	SYSTEM TEST AND EVALUATION	0	0	0	0	0
122310	TEST PERSONNEL AND TRAINING	0	0	0	0	0
122320	TEST SPARES	0	0	0	0	0
122330	TEST AGE/SE/TE	0	0	0	0	0
122340	TEST FACILITIES	0	0	0	0	0
122400	FOREIGN MILITARY SALES	0	0	0	0	0
200000	INVESTMENT	300,000	300,000	270,000	270,000	270,000
210000	ACQUISITION (CONTRACTOR)	300,000	300,000	270,000	270,000	270,000
211000	PRODUCTION HARDWARE	0	0	0	0	0
212000	PECULIAR SUPPORT EQUIPMENT	300,000	300,000	270,000	270,000	270,000
213000	TRAINING	0	0	0	0	0
214000	INTEGRATION AND TEST	0	0	0	0	0
215000	PROGRAM MANAGEMENT	0	0	0	0	0
216000	DOCUMENTATION	0	0	0	0	0
217000	TECHNICAL SUPPORT	0	0	0	0	0
218000	INDUSTRIAL FACILITIES	0	0	0	0	0
219000	INITIAL SPARES AND REPAIR PARTS	0	0	0	0	0
220000	GOVERNMENT	0	0	0	0	0
221000	GFE/GFM	0	0	0	0	0
222000	COMMON SUPPORT EQUIPMENT	0	0	0	0	0
223000	TRAINING	0	0	0	0	0
224000	SYSTEM TEST AND EVALUATION	0	0	0	0	0
225000	PROJECT MANAGEMENT	0	0	0	0	0
226000	DOCUMENTATION	0	0	0	0	0
227000	SITE ACTIVATION	0	0	0	0	0
227100	OPERATIONAL SITES	0	0	0	0	0
227200	MAINTENANCE FACILITIES	0	0	0	0	0
228000	SUPPLY INTRODUCTION	0	0	0	0	0

*COST BREAKDOWN BY YEAR

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 *CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	<---------- COST FOR YEAR ----------> 21	22	23	24	25
220000	TRANSPORTATION	0	0	0	0	0
300000	OPERATING AND SUPPORT	168,867	160,086	152,937	148,487	144,036
310000	OPERATING	35,857	33,641	32,450	31,330	30,210
311000	CREW	6,552	5,616	5,616	5,616	5,616
312000	STAFF	360	350	324	324	324
313000	MATERIAL	28,640	27,350	26,240	25,120	24,000
314000	SECURITY	105	105	90	90	90
315000	OTHER DEPLOYED MANPOWER	0	0	0	0	0
316000	PERSONNEL SUPPORT	200	200	180	180	180
320000	O/I MAINTENANCE ACTIVITY	57,257	53,763	50,906	50,206	49,506
321000	AFLOAT FACILITIES	21,669	21,259	19,102	18,752	18,402
321100	LABOR	10,619	10,619	9,102	9,102	9,102
321110	WEAPON SYSTEM MAINTENANCE	9,429	9,429	8,082	8,082	8,082
321120	ORDNANCE MAINTENANCE	1,190	1,190	1,020	1,020	1,020
321200	MATERIAL	8,950	8,550	8,200	7,850	7,500
321300	PERSONNEL SUPPORT	2,100	2,100	1,800	1,800	1,800
321400	SITE MAINTENANCE	0	0	0	0	0
322000	ASHORE FACILITIES	35,588	32,494	31,804	31,454	31,104
322100	LABOR	21,238	18,544	18,204	18,204	18,204
322110	WEAPON SYSTEM MAINTENANCE	18,858	16,164	16,164	16,164	16,164
322120	ORDNANCE MAINTENANCE	2,380	2,380	2,040	2,040	2,040
322200	MATERIAL	8,950	8,550	8,200	7,850	7,500
322300	PERSONNEL SUPPORT	5,400	5,400	5,400	5,400	5,400
322400	SITE MAINTENANCE	0	0	0	0	0
330000	INSTALLATION SUPPORT	830	830	720	720	720
331000	BASE OPERATING SUPPORT	200	200	180	180	180
332000	REAL PROPERTY MAINTENANCE	0	0	0	0	0
333000	PERSONNEL SUPPORT	630	630	540	540	540
340000	DEPOT MAINTENANCE	22,332	21,334	20,461	19,587	18,714
341000	SCHEDULED MAINTENANCE	810	774	742	711	679
342000	UNSCHEDULED MAINTENANCE	42	40	38	37	35
343000	MODERNIZATION	21,480	20,520	19,680	18,840	18,000
344000	COMPONENT REPAIR	0	0	0	0	0
350000	DEPOT SUPPLY	5,023	5,023	4,692	4,692	4,692
351000	MATERIAL MANAGEMENT	5,015	5,015	4,684	4,684	4,684
352000	TECHNICAL SUPPORT	8	8	8	8	8
360000	SECOND DESTINATION TRANSPORTATION	11	10	10	9	9
361000	SCHEDULED	10	9	9	9	8
362000	UNSCHEDULED	1	1	1	1	1
370000	PERSONNEL SUPPORT AND TRAINING	620	575	545	545	545
371000	INDIVIDUAL TRAINING	50	50	50	50	50
372000	HEALTH CARE	270	225	225	225	225
373000	PERSONNEL ACTIVITIES	100	100	90	90	90
374000	PERSONNEL SUPPORT	200	200	180	180	180
380000	SUSTAINING INVESTMENTS	46,918	44,910	43,154	41,397	39,640

COST BREAKDOWN BY YEAR

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 ,CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	COST FOR YEAR 21	22	23	24	25
391000	REPLENISHMENT SPARES	168	160	154	147	140
392000	MODIFICATIONS	42,960	41,040	39,360	37,680	36,000
393000	REPLENISHMENT SUPPORT EQUIPMENT	2,000	2,000	2,000	2,000	2,000
394000	EXPENDABLE STORES	1,790	1,710	1,640	1,570	1,500
400000	ASSOCIATED SYSTEMS	0	0	0	0	0
410000	INVESTMENT	0	0	0	0	0
411000	MOBILE LOGISTICS SUPPORT FORCE	0	0	0	0	0
412000	TENDERS AND REPAIR SHIPS	0	0	0	0	0
413000	ASHORE INA	0	0	0	0	0
420000	OPERATING AND SUPPORT	0	0	0	0	0
421000	MOBILE LOGISTICS SUPPORT FORCE	0	0	0	0	0
422000	TENDERS AND REPAIR SHIPS	0	0	0	0	0
423000	ASHORE INA	0	0	0	0	0
424000	EMBARKED SYSTEMS	0	0	0	0	0
500000	TERMINATION	0	0	0	0	0

COST BREAKDOWN BY YEAR

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 *CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	COST FOR YEAR 26
000000	LIFE CYCLE COST	410,172
100000	RESEARCH AND DEVELOPMENT	0
110000	VALIDATION	0
111000	CONTRACTOR	0
112000	GOVERNMENT	0
120000	FULL SCALE DEVELOPMENT	0
121000	CONTRACTOR	0
121100	PROGRAM MANAGEMENT	0
121200	ENGINEERING	0
121300	PROTOTYPE HARDWARE	0
121400	SOFTWARE	0
121500	INTEGRATION AND TEST	0
121600	DOCUMENTATION	0
122000	GOVERNMENT	0
122100	PROJECT MANAGEMENT	0
122200	SYSTEMS ENGINEERING	0
122300	SYSTEM TEST AND EVALUATION	0
122310	TEST PERSONNEL AND TRAINING	0
122320	TEST SPARES	0
122330	TEST AGE/SE/TE	0
122340	TEST FACILITIES	0
122400	FOREIGN MILITARY SALES	0
200000	INVESTMENT	270,000
210000	ACQUISITION (CONTRACTOR)	270,000
211000	PRODUCTION HARDWARE	0
212000	PECULIAR SUPPORT EQUIPMENT	270,000
213000	TRAINING	0
214000	INTEGRATION AND TEST	0
215000	PROGRAM MANAGEMENT	0
216000	DOCUMENTATION	0
217000	TECHNICAL SUPPORT	0
218000	INDUSTRIAL FACILITIES	0
219000	INITIAL SPARES AND REPAIR PARTS	0
220000	GOVERNMENT	0
221000	GFE/GFM	0
222000	COMMON SUPPORT EQUIPMENT	0
223000	TRAINING	0
224000	SYSTEM TEST AND EVALUATION	0
225000	PROJECT MANAGEMENT	0
226000	DOCUMENTATION	0
227000	SITE ACTIVATION	0
227100	OPERATIONAL SITES	0
227200	MAINTENANCE FACILITIES	0
228000	SUPPLY INTRODUCTION	0

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COST BREAKDOWN BY YEAR

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 *CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	<---------- COST FOR YEAR ----------> 26
220000	TRANSPORTATION	0
300000	OPERATING AND SUPPORT	140,172
310000	OPERATING	29,250
311000	CREW	5,616
312000	STAFF	324
313000	MATERIAL	23,040
314000	SECURITY	90
315000	OTHER DEPLOYED MANPOWER	0
316000	PERSONNEL SUPPORT	180
320000	O/I MAINTENANCE ACTIVITY	48,906
321000	AFLOAT FACILITIES	18,102
321100	LABOR	9,102
321110	WEAPON SYSTEM MAINTENANCE	8,082
321120	ORDNANCE MAINTENANCE	1,020
321200	MATERIAL	7,200
321300	PERSONNEL SUPPORT	1,800
321400	SITE MAINTENANCE	0
322000	ASHORE FACILITIES	30,804
322100	LABOR	18,204
322110	WEAPON SYSTEM MAINTENANCE	16,164
322120	ORDNANCE MAINTENANCE	2,040
322200	MATERIAL	7,200
322300	PERSONNEL SUPPORT	5,400
322400	SITE MAINTENANCE	0
330000	INSTALLATION SUPPORT	720
331000	BASE OPERATING SUPPORT	180
332000	REAL PROPERTY MAINTENANCE	0
333000	PERSONNEL SUPPORT	540
340000	DEPOT MAINTENANCE	17,965
341000	SCHEDULED MAINTENANCE	652
342000	UNSCHEDULED MAINTENANCE	34
343000	MODERNIZATION	17,280
344000	COMPONENT REPAIR	0
350000	DEPOT SUPPLY	4,692
351000	MATERIAL MANAGEMENT	4,684
352000	TECHNICAL SUPPORT	9
360000	SECOND DESTINATION TRANSPORTATION	9
361000	SCHEDULED	8
362000	UNSCHEDULED	1
370000	PERSONNEL SUPPORT AND TRAINING	495
371000	INDIVIDUAL TRAINING	0
372000	HEALTH CARE	225
373000	PERSONNEL ACTIVITIES	90
376000	PERSONNEL SUPPORT	180
390000	SUSTAINING INVESTMENTS	38,135

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COST BREAKDOWN BY YEAR

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 *CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	COST FOR YEAR 26
361000	REPLENISHMENT SPARES	135
382000	MODIFICATIONS	34,560
383000	REPLENISHMENT SUPPORT EQUIPMENT	2,000
384000	EXPENDABLE STORES	1,440
400000	ASSOCIATED SYSTEMS	0
410000	INVESTMENT	0
411000	MOBILE LOGISTICS SUPPORT FORCE	0
412000	TENDERS AND REPAIR SHIPS	0
413000	ASHORE ING	0
420000	OPERATING AND SUPPORT	0
421000	MOBILE LOGISTICS SUPPORT FORCE	0
422000	TENDERS AND REPAIR SHIPS	0
423000	ASHORE ING	0
424000	ENHANCED SYSTEMS	0
500000	TERMINATION	0

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$$$ COSTS IN THOUSAND DOLLARS $$$ COST BREAKDOWN TOTALS ****BASE YEAR= 1 ,CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	TOTAL ADJUSTED COST	<----------PERCENTS OF TOTAL ADJUSTED COST----------> FOR TOTAL LIFE CYCLE				
000000	LIFE CYCLE COST	12,756,695					100.0
100000	RESEARCH AND DEVELOPMENT	587,930				4.6	
110000	VALIDATION	85,291			0.7		
111000	CONTRACTOR	84,789		0.7			
112000	GOVERNMENT	502		0.0			
120000	FULL SCALE DEVELOPMENT	502,639			3.9		
121000	CONTRACTOR	477,793		3.7			
121100	PROGRAM MANAGEMENT	33,294	0.3				
121200	ENGINEERING	228,440	1.8				
121300	PROTOTYPE HARDWARE	80,710	0.6				
121400	SOFTWARE	0	0.0				
121500	INTEGRATION AND TEST	118,463	0.9				
121600	DOCUMENTATION	16,885	0.1				
122000	GOVERNMENT	24,846		0.2			
122100	PROJECT MANAGEMENT	5,180	0.0				
122200	SYSTEMS ENGINEERING	5,187	0.0				
122300	SYSTEM TEST AND EVALUATION	14,479	0.1				
122310	TEST PERSONNEL AND TRAINING	1,790	0.0				
122320	TEST SPARES	1,181	0.0				
122330	TEST AGE/SSE/TE	5,704	0.0				
122340	TEST FACILITIES	5,804	0.0				
122400	FOREIGN MILITARY SALES	0	0.0				
200000	INVESTMENT	9,338,968				73.2	
210000	ACQUISITION (CONTRACTOR)	9,215,995			72.2		
211000	PRODUCTION HARDWARE	3,108,000		24.4			
212000	PECULIAR SUPPORT EQUIPMENT	5,219,999		40.9			
213000	TRAINING	174,772		1.4			
214000	INTEGRATION AND TEST	21,800		0.2			
215000	PROGRAM MANAGEMENT	26,800		0.2			
216000	DOCUMENTATION	206,074		1.6			
217000	TECHNICAL SUPPORT	38,550		0.3			
218000	INDUSTRIAL FACILITIES	0		0.0			
219000	INITIAL SPARES AND REPAIR PARTS	420,000		3.3			
220000	GOVERNMENT	122,973			1.0		
221000	GFE/GFM	0		0.0			
222000	COMMON SUPPORT EQUIPMENT	58,806		0.5			
223000	TRAINING	2,772		0.0			
224000	SYSTEM TEST AND EVALUATION	21,800		0.2			
225000	PROJECT MANAGEMENT	26,800		0.2			
226000	DOCUMENTATION	3,519		0.0			
227000	SITE ACTIVATION	6,870		0.1			
227100	OPERATIONAL SITES	0	0.0				
227200	MAINTENANCE FACILITIES	6,870	0.1				
228000	SUPPLY INTRODUCTION	592		0.0			

COST BREAKDOWN TOTALS

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 *CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	TOTAL ADJUSTED COST	<----------PERCENTS OF TOTAL ADJUSTED COST FOR TOTAL LIFE CYCLE---------->			
220000	TRANSPORTATION	1,813			0.0	
300000	OPERATING AND SUPPORT	2,829,798				22.2
310000	OPERATING	592,644				4.6
311000	CREW	121,680			1.0	
312000	STAFF	6,264			0.0	
313000	MATERIAL	459,360			3.6	
314000	SECURITY	1,860			0.0	
315000	OTHER DEPLOYED MANPOWER	0			0.0	
316000	PERSONNEL SUPPORT	3,480			0.0	
320000	O/I MAINTENANCE ACTIVITY	988,647				7.8
321000	AFLOAT FACILITIES	367,211			2.9	
321100	LABOR	186,761		1.5		
321110	WEAPON SYSTEM MAINTENANCE	165,681	1.3			
321120	ORDNANCE MAINTENANCE	21,080	0.2			
321200	MATERIAL	143,550		1.1		
321300	PERSONNEL SUPPORT	36,900		0.3		
321400	SITE MAINTENANCE	0		0.0		
322000	ASHORE FACILITIES	621,436			4.9	
322100	LABOR	389,686		3.1		
322110	WEAPON SYSTEM MAINTENANCE	347,526	2.7			
322120	ORDNANCE MAINTENANCE	42,160	0.3			
322200	MATERIAL	143,550		1.1		
322300	PERSONNEL SUPPORT	88,200		0.7		
322400	SITE MAINTENANCE	0		0.0		
330000	INSTALLATION SUPPORT	14,640				0.1
331000	BASE OPERATING SUPPORT	3,480			0.0	
332000	REAL PROPERTY MAINTENANCE	0			0.0	
333000	PERSONNEL SUPPORT	11,160			0.1	
340000	DEPOT MAINTENANCE	358,185				2.8
341000	SCHEDULED MAINTENANCE	12,993			0.1	
342000	UNSCHEDULED MAINTENANCE	672			0.0	
343000	MODERNIZATION	344,520			2.7	
344000	COMPONENT REPAIR	0			0.0	
350000	DEPOT SUPPLY	107,664				0.8
351000	MATERIAL MANAGEMENT	98,104			0.8	
352000	TECHNICAL SUPPORT	9,560			0.1	
360000	SECOND DESTINATION TRANSPORTATION	173				0.0
361000	SCHEDULED	158			0.0	
362000	UNSCHEDULED	16			0.0	
370000	PERSONNEL SUPPORT AND TRAINING	11,075				0.1
371000	INDIVIDUAL TRAINING	950			0.0	
372000	HEALTH CARE	4,905			0.0	
373000	PERSONNEL ACTIVITIES	1,740			0.0	
374000	PERSONNEL SUPPORT	3,480			0.0	
380000	SUSTAINING INVESTMENTS	756,769				5.9

COST BREAKDOWN TOTALS

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 *CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	TOTAL ADJUSTED COST	<----------PERCENTS OF TOTAL ADJUSTED COST----------> FOR TOTAL LIFE CYCLE		
391000	REPLENTISHMENT SPARES	2,687	0.0		
392000	MODIFICATIONS	689,040	5.4		
393000	REPLENTISHMENT SUPPORT EQUIPMENT	36,332	0.3		
394000	EXPENDABLE STORES	28,710	0.2		
400000	ASSOCIATED SYSTEMS	0			0.0
410000	INVESTMENT	0		0.0	
411000	MOBILE LOGISTICS SUPPORT FORCE	0	0.0		
412000	TENDERS AND REPAIR SHIPS	0	0.0		
413000	ASHORE IMA	0	0.0		
420000	OPERATING AND SUPPORT	0		0.0	
421000	MOBILE LOGISTICS SUPPORT FORCE	0	0.0		
422000	TENDERS AND REPAIR SHIPS	0	0.0		
423000	ASHORE IMA	0	0.0		
424000	EMBARKED SYSTEMS	0	0.0		
500000	TERMINATION	0			0.0

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GENERAL FUNDING REPORT

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 *CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	<- - - - - - - - - GENERAL TYPE OF FUNDING - - - - - - - - -> R & D	PROCURE-MENT	CONSTRUC-TION	O & M	MIL. PER-SONNEL	OTHERS	TOTAL
000000	LIFE CYCLE COST	587,930	10,027,647	24,292	1,985,292	131,544	0	12,756,695
100000	RESEARCH AND DEVELOPMENT	587,930	0	0	0	0	0	587,930
110000	VALIDATION	85,291	0	0	0	0	0	85,291
111000	CONTRACTOR	84,789	0	0	0	0	0	84,789
112000	GOVERNMENT	502	0	0	0	0	0	502
120000	FULL SCALE DEVELOPMENT	502,639	0	0	0	0	0	502,639
121000	CONTRACTOR	477,793	0	0	0	0	0	477,793
121100	PROGRAM MANAGEMENT	33,294	0	0	0	0	0	33,294
121200	ENGINEERING	228,440	0	0	0	0	0	228,440
121300	PROTOTYPE HARDWARE	80,710	0	0	0	0	0	80,710
121400	SOFTWARE	0	0	0	0	0	0	0
121500	INTEGRATION AND TEST	118,463	0	0	0	0	0	118,463
121600	DOCUMENTATION	16,885	0	0	0	0	0	16,885
122000	GOVERNMENT	24,846	0	0	0	0	0	24,846
122100	PROJECT MANAGEMENT	5,180	0	0	0	0	0	5,180
122200	SYSTEMS ENGINEERING	5,187	0	0	0	0	0	5,187
122300	SYSTEM TEST AND EVALUATION	14,479	0	0	0	0	0	14,479
122310	TEST PERSONNEL AND TRAINING	1,790	0	0	0	0	0	1,790
122320	TEST SPARES	1,181	0	0	0	0	0	1,181
122330	TEST AGE/SSE/TE	5,704	0	0	0	0	0	5,704
122340	TEST FACILITIES	5,804	0	0	0	0	0	5,804
122400	FOREIGN MILITARY SALES	0	0	0	0	0	0	0
200000	INVESTMENT	0	9,269,927	9,642	59,398	0	0	9,339,969
210000	ACQUISITION (CONTRACTOR)	0	9,215,995	0	0	0	0	9,215,995
211000	PRODUCTION HARDWARE	0	3,108,000	0	0	0	0	3,108,000
212000	PECULIAR SUPPORT EQUIPMENT	0	5,219,999	0	0	0	0	5,219,999
213000	TRAINING	0	174,772	0	0	0	0	174,772
214000	INTEGRATION AND TEST	0	21,800	0	0	0	0	21,800
215000	PROGRAM MANAGEMENT	0	25,800	0	0	0	0	26,800
216000	DOCUMENTATION	0	205,074	0	0	0	0	205,074
217000	TECHNICAL SUPPORT	0	38,550	0	0	0	0	38,550
218000	INDUSTRIAL FACILITIES	0	0	0	0	0	0	0
219000	INITIAL SPARES AND REPAIR PARTS	0	420,000	0	0	0	0	420,000
220000	GOVERNMENT	0	53,932	9,642	59,398	0	0	122,973
221000	GFE/GFM	0	0	0	0	0	0	0
222000	COMMON SUPPORT EQUIPMENT	0	0	0	58,806	0	0	58,806
223000	TRAINING	0	0	2,772	0	0	0	2,772
224000	SYSTEM TEST AND EVALUATION	0	21,800	0	0	0	0	21,800
225000	PROJECT MANAGEMENT	0	25,800	0	0	0	0	26,860
226000	DOCUMENTATION	0	3,519	0	0	0	0	3,513
227000	SITE ACTIVATION	0	0	6,870	0	0	0	6,870
227100	OPERATIONAL SITES	0	0	0	0	0	0	0
227200	MAINTENANCE FACILITIES	0	0	6,870	0	0	0	6,870
228000	SUPPLY INTRODUCTION	0	0	0	592	0	0	592

GENERAL FUNDING REPORT

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220000	TRANSPORTATION	0	1,813	0	0	0	0	1,813
300000	OPERATING AND SUPPORT	0	757,719	14,640	1,925,894	131,544	0	2,829,799
310000	OPERATING	0	0	0	462,840	129,804	0	592,644
311000	CREW	0	0	0	0	121,680	0	121,680
312000	STAFF	0	0	0	0	6,264	0	6,264
313000	MATERIAL	0	0	0	459,360	0	0	459,360
314000	SECURITY	0	0	0	0	1,860	0	1,860
315000	OTHER DEPLOYED MANPOWER	0	0	0	0	0	0	0
316000	PERSONNEL SUPPORT	0	0	0	3,480	0	0	3,480
320000	O/I MAINTENANCE ACTIVITY	0	0	0	988,647	0	0	988,647
321000	AFLOAT FACILITIES	0	0	0	367,211	0	0	367,211
321100	LABOR	0	0	0	186,761	0	0	186,761
321110	WEAPON SYSTEM MAINTENANCE	0	0	0	165,681	0	0	165,681
321120	ORDNANCE MAINTENANCE	0	0	0	21,080	0	0	21,080
321200	MATERIAL	0	0	0	143,550	0	0	143,550
321300	PERSONNEL SUPPORT	0	0	0	36,900	0	0	36,900
321400	SITE MAINTENANCE	0	0	0	0	0	0	0
322000	ASHORE FACILITIES	0	0	0	621,436	0	0	621,436
322100	LABOR	0	0	0	389,686	0	0	389,686
322110	WEAPON SYSTEM MAINTENANCE	0	0	0	347,526	0	0	347,526
322120	ORDNANCE MAINTENANCE	0	0	0	42,160	0	0	42,160
322200	MATERIAL	0	0	0	143,550	0	0	143,550
322300	PERSONNEL SUPPORT	0	0	0	88,200	0	0	88,200
322400	SITE MAINTENANCE	0	0	0	0	0	0	0
330000	INSTALLATION SUPPORT	0	0	14,640	0	0	0	14,640
331000	BASE OPERATING SUPPORT	0	0	3,480	0	0	0	3,480
332000	REAL PROPERTY MAINTENANCE	0	0	0	0	0	0	0
333000	PERSONNEL SUPPORT	0	0	11,160	0	0	0	11,160
340000	DEPOT MAINTENANCE	0	0	0	356,185	0	0	358,185
341000	SCHEDULED MAINTENANCE	0	0	0	12,993	0	0	12,993
342000	UNSCHEDULED MAINTENANCE	0	0	0	672	0	0	672
343000	MODERNIZATION	0	0	0	344,520	0	0	344,520
344000	COMPONENT REPAIR	0	0	0	0	0	0	0
350000	DEPOT SUPPLY	0	0	0	107,664	0	0	107,664
351000	MATERIAL MANAGEMENT	0	0	0	98,104	0	0	98,104
352000	TECHNICAL SUPPORT	0	0	0	9,560	0	0	9,560
360000	SECOND DESTINATION TRANSPORTATION	0	0	0	173	0	0	173
361000	SCHEDULED	0	0	0	158	0	0	159
362000	UNSCHEDULED	0	0	0	16	0	0	15
370000	PERSONNEL SUPPORT AND TRAINING	0	950	0	8,385	1,740	0	11,075
371000	INDIVIDUAL TRAINING	0	950	0	0	0	0	959
372000	HEALTH CARE	0	0	0	4,905	0	0	4,905
373000	PERSONNEL ACTIVITIES	0	0	0	0	1,740	0	1,740
376000	PERSONNEL SUPPORT	0	0	0	3,480	0	0	3,480
390000	SUSTAINING INVESTMENTS	0	756,769	0	0	0	0	756,769

GENERAL FUNDING REPORT

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 *CONSTANT DOLLARS*****

COST BREAKDOWN STRUCTURE NUMBER	COST BREAKDOWN STRUCTURE ELEMENT	<- - - - - - - - - GENERAL TYPE OF FUNDING - - - - - - - - -> R & D	PROCURE-MENT	CONSTRUC-TION	O & M	MIL. PER-SONNEL	OTHERS	TOTAL
391000	REPLENTISHMENT SPARES	0	2,697	0	0	0	0	2,697
392000	MODIFICATIONS	0	689,040	0	0	0	0	689,040
393000	REPLENTISHMENT SUPPORT EQUIPMENT	0	35,332	0	0	0	0	36,332
396000	EXPENDABLE STORES	0	29,710	0	0	0	0	28,710
400000	ASSOCIATED SYSTEMS	0	0	0	0	0	0	0
410000	INVESTMENT	0	0	0	0	0	0	0
411000	MOBILE LOGISTICS SUPPORT FORCE	0	0	0	0	0	0	0
412000	TENDERS AND REPAIR SHIPS	0	0	0	0	0	0	0
413000	ASHORE IMA	0	0	0	0	0	0	0
420000	OPERATING AND SUPPORT	0	0	0	0	0	0	0
421000	MOBILE LOGISTICS SUPPORT FORCE	0	0	0	0	0	0	0
422000	TENDERS AND REPAIR SHIPS	0	0	0	0	0	0	0
423000	ASHORE IMA	0	0	0	0	0	0	0
426000	EMBARKED SYSTEMS	0	0	0	0	0	0	0
500000	TERMINATION	0	0	0	0	0	0	0

ANNUAL COST BY FUNDING TYPE

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 *CONSTANT DOLLARS*****

	FUNDING TYPE						
YEAR	R & D	PROCUREMENT	CONSTRUCTION	O & M	MIL. PERSONNEL	OTHERS	TOTAL
1	26,064	0	0	1,310	0	0	27,374
2	59,227	0	0	1,310	0	0	60,537
3	95,366	0	0	1,310	0	0	96,676
4	173,393	0	0	1,310	0	0	174,703
5	172,903	0	0	1,903	0	0	174,806
6	60,979	245,849	2,629	12,596	0	0	322,091
7	0	343,660	3,359	28,625	1,933	0	377,356
8	0	343,204	1,500	37,533	2,976	0	391,213
9	0	411,765	1,080	45,753	4,909	0	463,487
10	0	535,839	1,320	65,126	6,013	0	709,296
11	0	735,426	1,430	80,473	7,010	0	825,339
12	0	707,097	1,015	91,478	7,946	0	807,537
13	0	934,399	830	106,273	9,989	0	956,491
14	0	942,343	940	122,700	9,050	0	975,032
15	0	905,821	1,050	135,626	8,175	0	950,672
16	0	704,210	1,050	138,659	8,175	0	852,094
17	0	385,677	940	132,283	7,178	0	527,078
18	0	384,261	940	126,081	7,178	0	518,660
19	0	351,648	830	120,090	7,117	0	479,724
20	0	349,209	830	117,011	7,117	0	474,166
21	0	345,968	830	113,932	7,117	0	468,847
22	0	344,960	830	108,115	6,181	0	460,086
23	0	313,203	720	102,893	6,120	0	422,937
24	0	311,447	720	100,200	6,120	0	418,486
25	0	304,690	720	97,506	6,120	0	414,036
26	0	304,135	720	95,197	6,120	0	410,172
TOTAL	587,930	10,027,647	24,242	1,985,292	131,544	0	12,756,645

ANNUAL COST BY COST CATEGORY

$$$ COSTS IN THOUSAND DOLLARS $$$ *****BASE YEAR= 1 *CONSTANT DOLLARS*****

YEAR	COST CATEGORY: CONTRACTOR	PROGRAM MANAGEMENT	TESTING	PRIME EQUIPMENT	TRAINING	SUPPLY SUPPORT	TECHNICAL DATA	SUPPORT EQUIPMENT	OPERATION	MAINTENANCE	TOTAL
1	26,064	0	0	0	0	0	1,310	0	0	0	27,374
2	58,725	502	0	0	0	0	1,310	0	0	0	60,537
3	91,473	2,064	1,428	0	0	0	1,310	0	0	0	96,675
4	164,531	3,625	5,236	0	0	0	1,310	0	0	0	174,703
5	163,774	3,619	5,711	0	0	592	1,310	0	0	0	174,806
6	57,615	1,259	2,104	7,123	14,072	20,000	208,633	11,296	0	0	322,091
7	0	53,600	21,800	42,713	163,522	33,574	2,605	47,669	2,198	9,698	377,356
8	0	0	0	187,805	50	70,522	2,760	102,591	5,905	21,690	391,213
9	0	0	0	246,713	50	42,007	3,681	127,777	11,326	31,739	463,487
10	0	0	0	309,915	50	116,456	3,890	214,092	16,719	45,175	709,295
11	0	0	0	437,322	50	55,981	4,221	249,407	23,590	55,778	825,333
12	0	0	0	432,567	50	30,358	4,221	245,350	29,954	64,435	807,537
13	0	0	0	432,252	50	106,494	4,883	300,033	36,334	75,346	954,491
14	0	0	0	432,252	50	73,147	5,213	330,033	41,470	87,456	975,032
15	0	0	0	360,213	50	83,448	5,676	350,033	44,375	95,479	950,672
16	0	0	0	288,168	50	53,729	5,676	360,033	46,840	97,558	852,094
17	0	0	0	0	50	51,319	5,346	331,177	44,143	93,043	527,078
18	0	0	0	0	50	49,151	5,346	333,020	42,569	88,325	518,460
19	0	0	0	0	50	45,983	5,015	302,705	40,937	84,035	479,724
20	0	0	0	0	50	45,055	5,015	302,233	39,577	82,236	474,166
21	0	0	0	0	50	43,128	5,015	302,000	38,217	80,438	469,847
22	0	0	0	0	50	41,200	5,015	302,000	35,976	75,945	460,045
23	0	0	0	0	50	39,514	4,684	272,000	34,595	72,104	422,937
24	0	0	0	0	50	37,827	4,684	272,000	33,395	70,531	418,486
25	0	0	0	0	50	35,140	4,684	272,000	32,205	69,957	414,036
26	0	0	0	0	0	34,695	4,684	272,000	31,185	67,608	410,172
TOTAL	562,582	64,469	36,279	3,177,033	179,496	1,112,319	307,697	5,315,137	631,479	1,371,206	12,756,695